



Canadian Geographical Journal

Published monthly by

THE CANADIAN GEOGRAPHICAL SOCIETY

EDITOR

LAWRENCE J. BURPEE

Ottawa, Canada

PUBLISHER

GEORGE A. MACKIE

Fifth Floor - Sun Life Building - Montreal



MARCH, 1933

Entered as second-class matter at the
Post Office, Montreal, Canada

VOL. VI., No. 3

In This Issue

Jehol—"Twilight Land of Nomadism"
W. W. GOFORTH 107

Glasgow
PETER B. M. ROBERTS 119

Cape Breton Island
EDITH A. DAVIS 135

Rubber
JAMES HOOPER 145

This magazine is dedicated to the interpretation, in authentic and popular form, with extensive illustration, of geography in its widest sense, first of Canada, then of the rest of the British Commonwealth, and other parts of the world in which Canada has special interest.

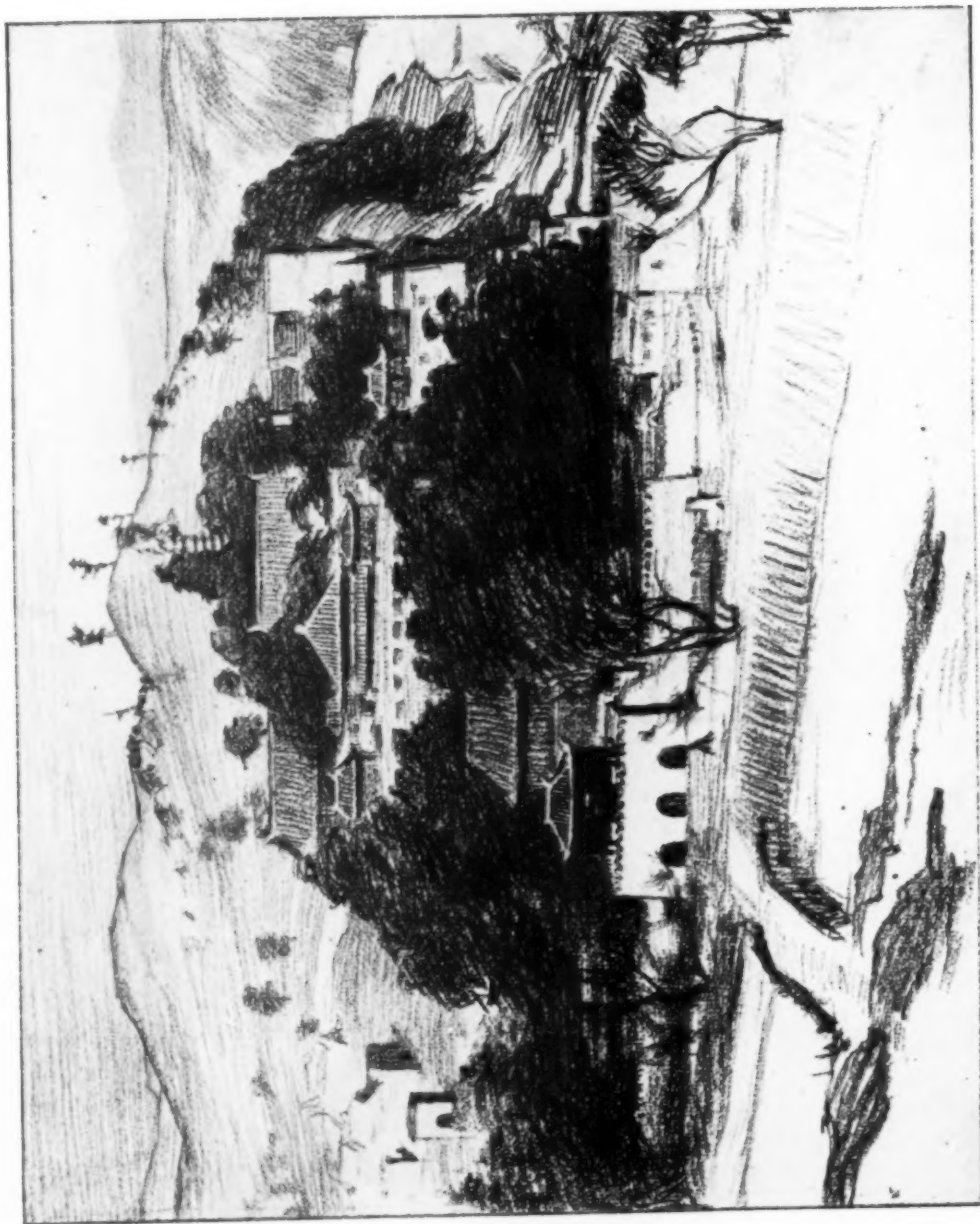
The British standard of spelling is adopted, substantially as used by the Dominion Government and taught in most Canadian schools, the precise authority being the Oxford Dictionary as edited in 1929.

Contents of this Journal are copyright.

Address communications regarding change of address, non-delivery of Journal, etc., to The Canadian Geographical Society, Publication Office, Fifth Floor; Sun Life Building; Montreal, Que., giving old and new address. On all new memberships, the expiry date will be printed on wrapper containing starting number. This will constitute a receipt for subscription.

Member Audit Bureau of Circulations.

Membership fee is \$3.00 per year in Canada and other parts of the British Empire, which includes delivery of the Journal, postpaid; in United States and Mexico, \$3.50; in other countries \$4.00. Make membership fee payable at par in Montreal.



An Oriental "Fontainebleau", the Summer Palace of the Manchu Emperors at Jehol. Built in 1703, it stands a memorial of the Manchu power at its peak, though now its pavilions crumble and weeds grow in its ponds.

This and the illustration on the opposite page reproduced from charcoal sketches.

JEHOL

"Twilight Land of Nomadism"

By W. W. GOFORTH



THE boundaries of Jehol over which Chinese and Japanese armies have been struggling, are not quite so clearly defined as they would appear to be on the accompanying map. Immigration from "south of the wall" may have weakened its claim to the historic title of "twilight land of nomadism," yet Jehol has always been and still is a somewhat shadowy political entity, lying somewhere between China proper, Manchuria and the Mongolian plateau. No two atlases agree as to its precise political boundaries. No two authorities seem to concur on its exact administrative status. Unlike intramural China but very like other parts beyond the wall, Jehol's frontiers and title seem to sway and vary with time and circumstance.

Shaped like a slightly dented pear, the stem (Lat. 45° 30'n) points N.N.W into the Eastern Gobi, and the base (Lat. 40° 30'n) rests on a fringe of over-sized hills, overlooking the great

loess plain of North China. It will be noted that these figures approximate to the latitudes of Montreal and Philadelphia respectively. This base happens to coincide roughly with that antique and crumbling wonder, the Great Wall.

For those who see in Chinese names merely a means for further exasperating an already perplexed reader, one might point out that there is both humour and simplicity in the majority of such names. A few have been translated as they arise in the text, but it may be of interest to examine some of the more subtle of the terms used to denote locations. A rest station in central Jehol, on one of the old Imperial Post Roads, that had housed generations of travelling mandarins, chose the alluring superlative of "Long-bearded Heaven" (or haven!).

Such names as Wushihchiatzu and Sanchatzu, which abound among the Chinese agricultural colonies of the fertile valleys, are but a convenient

index to the number of families originally forming each settlement. They mean "Fifty Homes" and "Three Homes" respectively. So elastic is the usual interpretation of their "*chia*" by the Chinese that this method is quite unreliable for census purposes.

A small town in the north of the Province advertises its unusual forest wealth in a seriously deforested country by the quaintly attractive name Eryangshu ("Two kinds of trees"). It would be difficult to surpass the unconscious double-edged humour of a village which recently witnessed a sanguinary Sino-Japanese clash: Pinganti ("Peaceful ground").

Within this "provisional province" or "special administrative district" among other titles applied to it there live and labour over two million Chinese and roughly a million Mongols and quasi-Mongols. The East-Asiatic (Japanese) Economic Investigation Bureau has estimated the population of Jehol to be 3,495,478 in 1931. Like most of the estimates of population in Greater China this figure must be treated with discretion.

However indefinite Jehol's political limits, Nature has provided a physiographic endowment which stands in marked contrast to neighbouring areas. It is a relatively high plateau, averaging over 1500 feet, covered with rugged hills we might call them mountains, in Tibet they would be hardly hills, and interspersed with numerous broad and fertile valleys. The exception is the Cherim Prairie in the north-east, where grassland varies with sandy waste. Only in this one direction does Jehol tend to merge geographically with the adjoining territory.

The Province is shut off from Chahar and the rest of Inner Mongola by the South Khingan Range which towers up to 8,000 feet in the peaks of Paicha and Tashengtang, due west of Chihfeng.

The word Khingan is derived from the Manchu *Singgha*, meaning "sand dune." This range is formed largely of old sedimentary rock which weathers and forms sand dunes, a phenomenon frequently encountered in this border region.

The south-eastern border is clearly defined by a palisade of lower mountains, 2,000 to 3,000 feet, which looks down upon a narrow coastal plain. Here China proper and Manchuria touch finger-tips at Shanhaikwan ("The City between the Mountain and the Sea").

Across the lower half of the Province runs a lofty ridge, 4,000 to 5,000 feet, bisecting the line Jehol City — Chihfeng, and forming a Great Divide between the basins of extra-mural and intramural rivers, just as the Cherim Prairie, further north, forms the watershed between the Sungari and Upper Liao Valleys. This ridge is known as the Yen Shan Ling, supposedly after the ancient Chinese feudal state of Yen which conquered and occupied the Jehol hills (311-218 B.C.) and built thereon the "Wall of Yen."

Despite the existence of coal and other minerals, Jehol's rivers and river valleys are still the sole developed natural resources of importance. Once roamed

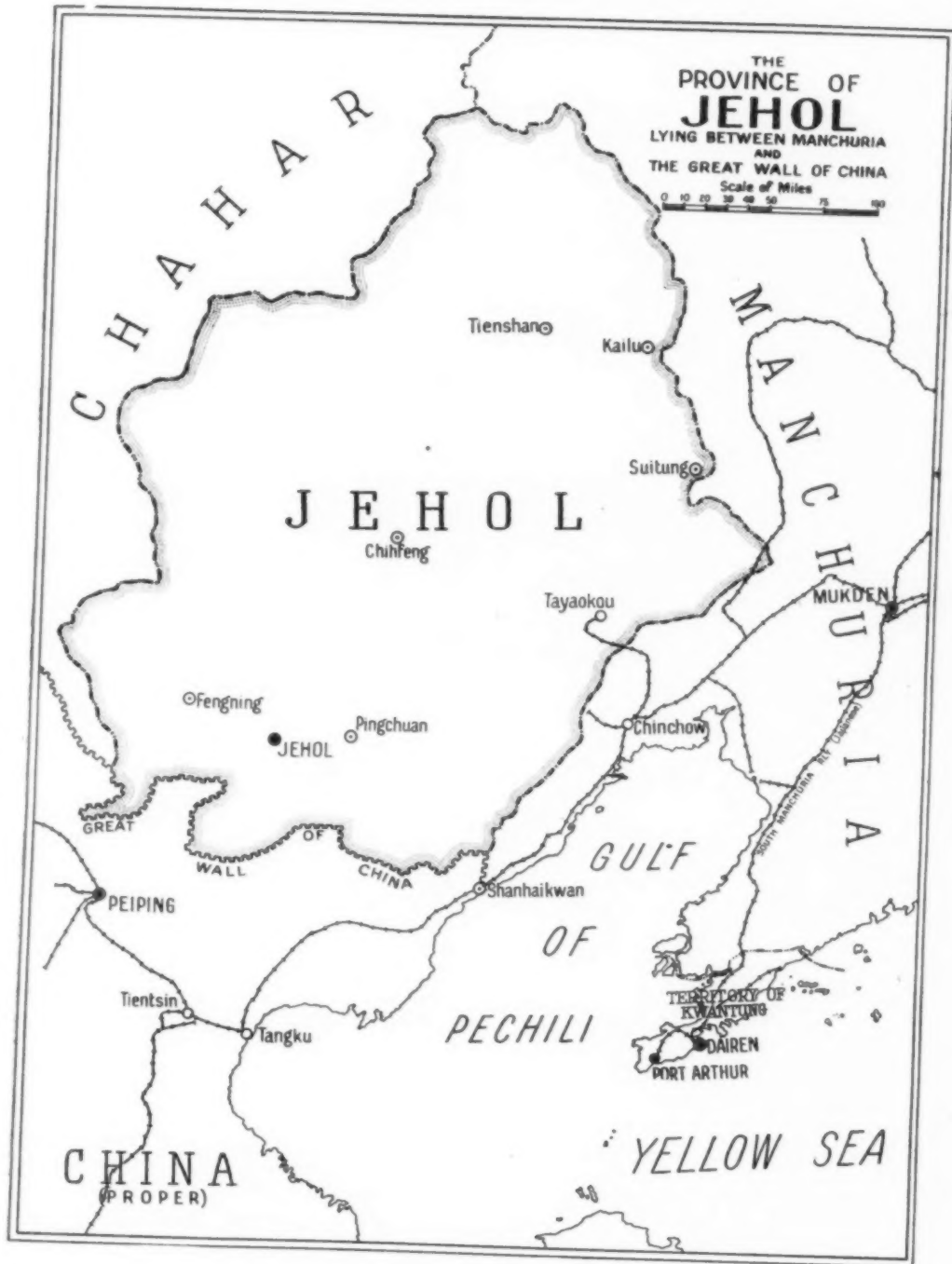
by the nomad with his goats, sheep and cattle, the valleys are now intensively cultivated by Chinese settlers. The latter have tended to push the Mongol onto the higher levels and into the more rugged and less fertile sections. One may still see the herdsmen armed with a crook having a curious bend in the end for a stone, which they "sling and throw to frighten refractory goats from going where they should not, and to bring them home from places where their keeper could never reach."

The staple crops in the river valleys, like those of northern China and south Manchuria, are millet, wheat, beans and *kaoliang* ("tall grain"). The latter, a



W. W. GOFORTH

A keen student of Chinese affairs, has travelled extensively in north China, Manchuria and in the southern part of Jehol. Has lectured at McGill University in Canadian Economic Geography and in Economic Problems of the Pacific and was member of Canadian delegation to Pacific Conference in Honolulu, 1927. Born in Honan, North China, son of Rev. Dr. J. Goforth, well known Canadian missionary now stationed on the Manchurian border of Jehol.



species of Kaffir corn, without cobs, is one of the most characteristic features of the agricultural landscape. It grows to a height of ten to fourteen feet. The black grain at the top is used to make

coarse native bread. The leaves are fed to cattle and mules. The stalks are employed to thatch roofs and walls of homes and granaries. The roots are used as fuel and around the roots are



Looking northward into the Southern Jehol Hills.

planted beans. The season when the *kaoliang* is high, early autumn, marks the perennial peak of banditry, since ambushing of travellers becomes greatly simplified. The Chinese, for generations before the modern American "racket" was invented, have been accustomed to purchase immunity from their *Hung Hu Tzu* ("red-beards"), who, like the Mahsuds of Waziristan, are able to melt away into their mountain fastnesses and defy pursuit.

The northern half of Jehol is watered by the Liao River and its tributaries. The main stream springs from the lofty slopes of "White Tea" Mountain, flows north for eighty miles and then almost due east for three hundred and fifty before it turns south and southwestward through Manchuria, past Liaoyang of Russo-Japanese War memory, into the Gulf of Laotung marked "Pechili" on the map. In the present campaign it would appear that the mobile Japanese columns, operating from the Tungliao railhead, through Kailu to Chihfeng, have followed these Upper Liao valleys

in their south-westward advance, particularly the valley of the Liaohaho.

The other important extramural river in Jehol is the Talingho which rises some fifty miles due north of Shanhaikwan, flows northeast behind and parallel to the coastal palisade, then cuts southeast, past Chaoyanssu, to form the gap through which the Chinchow-Tayaokou railway passes,—the only railway in Jehol, though many lines are projected on paper. Another short river cuts through the coast range to meet the sea at Suichung, midway between Shanhaikwan and Chinchow. This pass is traversed by one of the very few reasonably good roads from Manchuria into Jehol and has provided the Japanese with their shortest and most direct route to Pingchuan and Jehol City. On this route, sixty miles east of Pingchuan is situated the town of Lingyuan, recent scene of bitter fighting.

The southern part of the Province is drained by the Pei and Lan Rivers. The Pei rises just west of Fengning, flows south past Peiping and Tientsin to



The Great Wall, boundary of Jehol and China proper.

the sea at Tangku. More important to Jehol, however, is the Lan. The seat of government straddles the Je Ho ("warm river"), tributary of the Lan. From this both province and capital derive their names. The Chinghing River, another branch of the Lan, flows southward from Pingchuan through the "Pass of the Seven Gates," and, meeting the Lan, empties into the gulf through a wide delta.

Nearly all of the rivers mentioned are navigable by small junks. There are other rivers in this "twilight land" which never reach the sea but end only in some small inland lake. A few of these are to be found in the sandy northern sections of the Province, where the wet monsoons of late summer scarcely penetrate.

Before one can grasp the significance of Jehol's position in the fluctuating tide of Far Eastern affairs, it is necessary to know at least the outline of its history. Furthermore this history is inseparably related to its ethnography. Chinese historians have long ago reached practically unanimity as to the aboriginal

stream from which the existing Mongol and quasi-Mongol population of Jehol is descended. A clear distinction has been established between the tribes which occupied the Northeastern Hills and Cherim Prairie and those who dwelt in the Sungari basin and in the shadow of the White Mountain in Northern Korea. The former were known at successive periods as the Tunhgu, Hsienpie or *Chitans*. The latter were referred to in ancient time as the Shushen or Nuchen but in modern history as the Manchus.

The Manchus appeared in history at least seven centuries earlier than the Chitans. The Jehol aborigines were definitely related to the desert nomads and became more and more closely connected with and assimilated to the Mongol tribes of the plateau and of the Gobi. The Manchus, on the other hand, lived long as a separate people and were then gradually but almost completely merged with the Chinese.

Although appearing later, the Chitans of Jehol made the first great bid, among "barbarian" races, for imperial power



Buddhist Monks crossing the Cherim Prairie in Northern Jehol.



A Mongolian Village; their houses, called pao, built with stalks of millet and spread over with tents, permit of easy removal in their nomadic life.



Photograph by Professor George Barbour

A Jehol village in the Loess area; note the natural terraces, a characteristic of this yellow soil formation.



A camel Caravan on the snow-swept plains of Chahar, another post-Revolution province carved out of Inner Mongolia, and lying on the western border of Jehol.



Cutting kao-liang, a species of Kaffir corn without cobs. With beans, which are planted round the roots of this "tall grain," it forms the staple crop of Manchuria and North-Eastern Jehol.

in China proper. In the tenth century, following the fall of the Tang dynasty, this nomad race conquered most of the North China plain and also southern Manchuria. Their Kingdom was divided into five Provinces, the Peiho basin constituting two, the Jehol Hills, the Liao basin and the Cherim Prairie one each. In the year 946 they even marched upon the Yellow River basin and proclaimed the establishment of a Chitan dynasty known as the Liao.

In this they failed, but not so their rivals of the Sungari and the White Mountains. In the twelfth century the Manchus, or Nuchen as they were then known, displaced the Chitans, who had already suffered from Chinese attacks, and succeeded in establishing their own northern dynasty of Chin. Another century passed and the "barbarian" tide reached its crest in the conquests of Ghengis Khan. The Mongols from

beyond the Khingan Range became the first foreign rulers of all China. After an interregnum of the native Ming dynasty (1368-1644) China again succumbed to another tide from the north. The rejuvenated Manchus duplicated the feat of the Mongols but for a much longer period, (1645-1912). In each case, be it noted, the conquest of China proper did not occur until the invader had either occupied the Jehol Hills or secured an alliance with their tribes. This "twilight land of nomadism" was and still is the key to the north and central plains of China proper, and twice proved to be the jumping off place for the conquest of all China.

The tribes of Inner Mongolia greatly assisted Nurhachi in founding the Manchu, or Tsing dynasty, and were subsequently organized in forty-nine "banners" or clans, each having a distinguishing flag, and a "Wang" or prince. These princes claimed descent from Ghengis Khan and their dignity was hereditary. They were, for long, the chief bulwark of a disintegrating Manchu dynasty, but themselves became increasingly effete towards the close of the nineteenth century.

Alexander Williamson, one of the most observant of European travellers in Jehol, wrote in 1870 that "we have just passed through the territory of the Prince of the Har-Chin Banner, which



Mr. Henry Pu Yi, formerly the Emperor Hsuan Tung, last of the Manchu Dynasty, now Regent of Manchukuo.

commences at the Great Wall, at Kupeikou and extends far beyond Jehol City." He also distinguishes between the "nomadic and agricultural Mongols." "The nomadic Mongols," he states, "occupy the western and northern portion of this division of Mongolia, and the latter the eastern and southern." This is relatively true but by no means absolutely true. The present Mongol inhabitants of Jehol Province have characteristics of both types mentioned. They cultivate grain but only enough for their own requirements. Herds and flocks still occupy their major attention. Yet the tilling of the soil even though half-hearted has limited their nomadic life. Except in the far north-west of Jehol, few tribes today will be found living in "tents with a covering of hides and felts". The semi-agricultural Mongols live for the greater part in square houses of the Chinese type, though "circular houses, built of mud and covered with thatch" are still to be found.

It was during the Ming Dynasty that the first attempt was made towards assimilating the Jehol into China proper. This took the form of incorporating it nominally in the intra-mural province of Chihli. More definite steps, however, were taken by the Manchu emperors during the eighteenth century. The famous Summer Palace ("mountain lodge



City Gate of Chinchow, chief base of Japanese operations against South-Eastern Jehol; an important railway junction on the Peking-Mukden Railway and terminus of the only railway line penetrating the disputed province.



A Mongol baby in its cradle. The baby is wrapped and tied in securely, while the mother attends to her household duties.

for avoiding heat") was built in 1703, and a great hunting preserve created north-west of the city. In 1778 the Emperor Chien Lung, whom Lord McCartney visited at Jehol in 1793, organized this region into a prefecture of Chihli province, with Chengtefu, or Jehol City, as the district capital and with six *hsiens* or county centres under it. He had previously encouraged Chinese colonization in the Jehol hills, even though he used every means to prevent such an influx into Manchuria, the "home of the dynasty." Jehol region, or rather Chihli province of which it formed a part, was bounded on the north by the Liao Ho, and remained so until the proclamation of the Chinese Republic in 1912. The first President, Yuan Shikai, then reorganized the whole of Inner Mongolia, including the northern marches of Chihli and

Shansi into three "provisional provinces." These were intended chiefly as a check to expanding Russian influence in Outer Mongolia. The most easterly of these new "provinces" was Jehol, substantially as we know it today. To the west lie Chahar and Sui Yuan.

Jehol City now has a population of over 25000, exclusive of Lamaist monasteries. The most famous of the latter is the Potala Su, modelled, according to tradition, on the Dalai Lama's Potala palace in Thibet. Most of the county centres are distributed with greater consideration to their strategic significance as defence posts than to their commercial or industrial importance. Ching Peng and Lien Hsi guard the main caravan routes into Outer Mongolia on the northwest frontier, and are based on Chihfeng, another *hsien*. The latter is of great importance as a trading and transportation centre, being connected by roads of sorts with every part of the province. Suiting and Fuhsin are county towns which dominate the post roads from Mukden.

Apart from the *chienpu* ("money shops") and other small old type native banking institutions, this territory has been served since 1917 by the modern Jehol Industrial Bank, with paid-up capital of 1,000,000 Mexican dollars. This has five main branches in the province. Although surrounded on three sides by railways, it cannot be said that Jehol is directly affected, as yet, by modern transport apart from those areas which are closest to and are connected by good roads with the neighboring rail lines. With the exception of an excellent motor road from Jehol City to Peking, relic of Manchu extravagance, the province cannot boast of a real road system in the occidental sense. During the rainy season these "roads" become impassable bogs. They are little better than tracks at any time, but are best in winter. Since Jehol slopes towards the north, its winters are bitterly cold but the Yen Ling cuts off moisture bearing winds from the south also, so there is only a trifling snowfall. Great Caravans of springless two-wheeled



Chinese immigrants from south of the Great Wall. Note the wadded garments and the "pu-ngao" or rolls of bedding, enclosing the worldly belongings of the trekkers.



Lama Monks and their temple in Jehol.

carts carry produce in and out of the country during the season. They sometimes use the frozen surface of the rivers in preference to the uneven tracks. On the rugged trails of the west, camels are still almost as plentiful as in the olden days. Camel caravans traversing Jehol from Manchuria en route to Mongolia are not as frequently met with as formerly.

Altitude tends to give Jehol a more equable summer than is enjoyed on the plains of the south and east. Owing to the action of the monsoons, the northern slopes of all hills in the region are treeless, but the southern sides, except where deliberate wastage has denuded them, are frequently covered with a light deciduous forest. The woods of this province cannot, however, be numbered among its valuable resources, although the Great and Little Khingan Ranges, further north, in the Manchurian Province of Heilung Kiang, are rich in merchantable timber.

Political considerations connected with the present Sino-Japanese controversy do not concern the writer, yet it is useful

to summarize the factors of geography which bear upon the problem.

Jehol, lying as it does within the Khingan Range forms a vital link in a physically rounded Manchukuo, if one assumes the necessity or inevitability of a semi-independent state on the north eastern border of China. No government in Manchuria which is not overwhelmingly supported by local Chinese opinion, could hope to cope with the guerrilla problem unless the whole of the extramural and intra-Khingian area is effectively occupied and governed. From the Japanese viewpoint therefore, the occupation of Jehol is a logical corollary of her military and diplomatic policy in Manchukuo.

Leaving treaties and legal considerations aside, as irrelevant to this discussion, there is still a strong case for the Chinese view on geography alone. It is obvious from our brief sketch of Jehol's history that China has no very deep-rooted or long standing claim to the suzerainty of this "twilight land." She has never ruled over it securely, if at all, except when herself ruled by a "bar-



A typical town of the "Twilight Land of Nomadism," of which Jehol forms a part; where Mongols and Chinese mingle. Note the telegraph wires, sole modern touch in an ancient setting.

barian" dynasty. Yet the possession of the same land by any other tribe or power has repeatedly proved the undoing of China proper in the past. A casual glance at a relief map of Greater China amply explains this well established fact of history. Jehol, in alien hands, is an ever-present threat to the cradle of Chinese civilization.

Yet one may venture to predict that Japanese occupation would give to Jehol

the much needed boon of railways, good roads, and other means to its greater economic development. It is also possible that the historic resilience of the "Middle Kingdom," and her patient habit of absorbing invaders, would within a cycle of history restore to China in greater richness and value the North-Eastern Provinces which would now seem to be lost to her.



Photograph by Professor George Barbour

Ferrying a military police patrol across the upper Liao River

Glasgow

By PETER B. M. ROBERTS

IT was a Glasgow man who called his native city "A grand place to get out of." He meant to be complimentary, but the ambiguity of his phrase has led to its use in a sense which he certainly did not intend, and perhaps those who study from a distance the present-day political and industrial conditions of the city may think that the unfavourable interpretation is the true one.

That is a view which the citizens themselves would never accept. Their pride in their city and their belief in its future are alike undaunted; they remember that they have emerged from more than one crisis in the old days, and they are laying their plans on a scale which shows their confidence that the civic motto "Let Glasgow flourish" will continue to be fulfilled.

It is true that the men whom she sends to the House of Commons have gained a reputation for violent opinions. But they are not so "red" in private as they paint themselves in public, and though they have exploited the social discontent which is the natural result of hard times by creating a belief that any change must be for the better, they have not seriously disturbed the shrewd common-sense of the Scottish artisan.

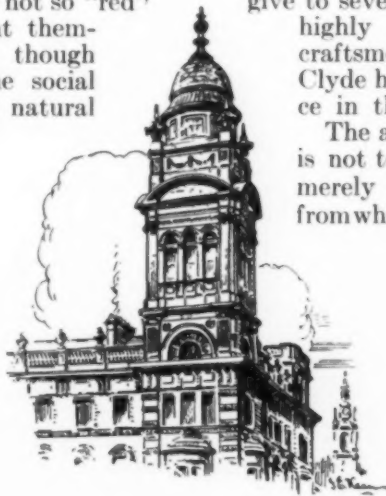
It is true that the staple industries of the Glasgow area,—shipbuilding, engineering, steel and coal—are depressed to a point unknown within



living memory. But that is mainly due to the inevitable contraction after the abnormal expansion of the war period, and the smaller trades, of which Glasgow has an unusually large number, and variety, nearly 2,000 in all, have remained remarkably brisk. Glasgow's "captains of industry" may speak like pessimists

but they act as optimists. They despise the spirit of industrial defeatism. Some time ago, when the opportunity to build the world's largest liner was presented to them, they seized it without hesitation, and the Clyde Navigation Trustees, with the courageous enterprise which has marked them for over a century set about the widening and deepening of the river, so that in due time the new Cunarder may safely take the water almost within sight of the place where Henry Bell's "Comet" was set afloat. The placing of that contract is valued not only for the employment it will give to several thousands of the most highly skilled and experienced craftsmen but as a sign that the Clyde has not lost its pre-eminence in the building of ships.

The average visitor to Glasgow is not to be blamed if he treats it merely as a jumping-off ground from which to reach more attractive places. He may arrive—as I did many years ago—in a dense fog through which the light of day cannot penetrate; he will be fortunate if he escapes the rain which is the penalty of living to leeward of a mountainous country; he



The Merchants' House



Glasgow Municipal Buildings and Cenotaph, St. George's Square.

will find that the people seem too much engrossed in their own affairs to pay much attention to the casual tourist. But, if he is anything more than a bird of passage, he will discover that underneath the casual and even brusque manner of the citizens lies a hospitable kindliness which is almost overwhelming.

Glasgow is no place for the holiday-maker, but as a city to live and work in it has few equals. Within half an hour

of leaving his office the business man may be at the foot of Loch Lomond, with its chain of wooded islands and its glorious background of mountains. Or he may be on the pier at Greenock or Gourock ready to embark on one of the steamers which will carry him to his mansion-house or his villa in one of the many pleasant villages and hamlets which fringe the Firth of Clyde. Within an hour his automobile will take him



The Trongate, looking up Argyle Street.

to the quiet uplands of Ayrshire or Renfrewshire — rich in memories of the Covenanters and little changed in essentials since their day — or to the grey solitude of Balfour and the "debateable land" between Highlands and Lowlands. Did not Baillie Nicol Jarvie within a day's ride of his shop in the Glasgow Trongate find himself embroiled in a Highland tuzlie? And so it is literally true that "Glasgow is a grand place to get out of" and its citizens show their

appreciation of that advantage by the extent to which they provide themselves with dwelling-places "down the water." The business man is content with a modest flat in Kelvinside or Queen's Park in order that he may have a cottage at Innellan, Kirn, or Millport to which he betakes himself daily for four or five months in the year.

But in spite of this migratory habit Glasgow evokes from its people a higher standard of civic patriotism than is to be



Meeting and parting, busy travellers and their friends crowd the Central Station at most hours of the day.

found in many a place with greater pretensions. In municipal enterprise she has been a pioneer and is still a world leader. For over 70 years she has drawn her water supply from Loch Katrine, some 40 miles away; for 60 years she has manufactured her own gas; for 40 years she has produced electrical energy; and for just over 30 years she has conducted with marked success a tramways service famous for cheapness and efficiency. The system financed by the Common Good Fund, paid off its capital cost within a comparatively few years, and is now a valuable asset which would produce a large surplus but for the general

municipal policy, as in other activities, to give service at cost price rather than earn profits.

Glasgow's budget figures suggest those of a minor European state; and though the ratepayers may grumble, after the manner of their kind, they are rightly proud of their corporate enterprises, as any outside critic will speedily discover. The city has become growingly mindful of the amenities as well as the essentials of life. Her "Green", an immense public park, on the right bank of the Clyde, she has had from time immemorial, and within the last two generations she has acquired largely

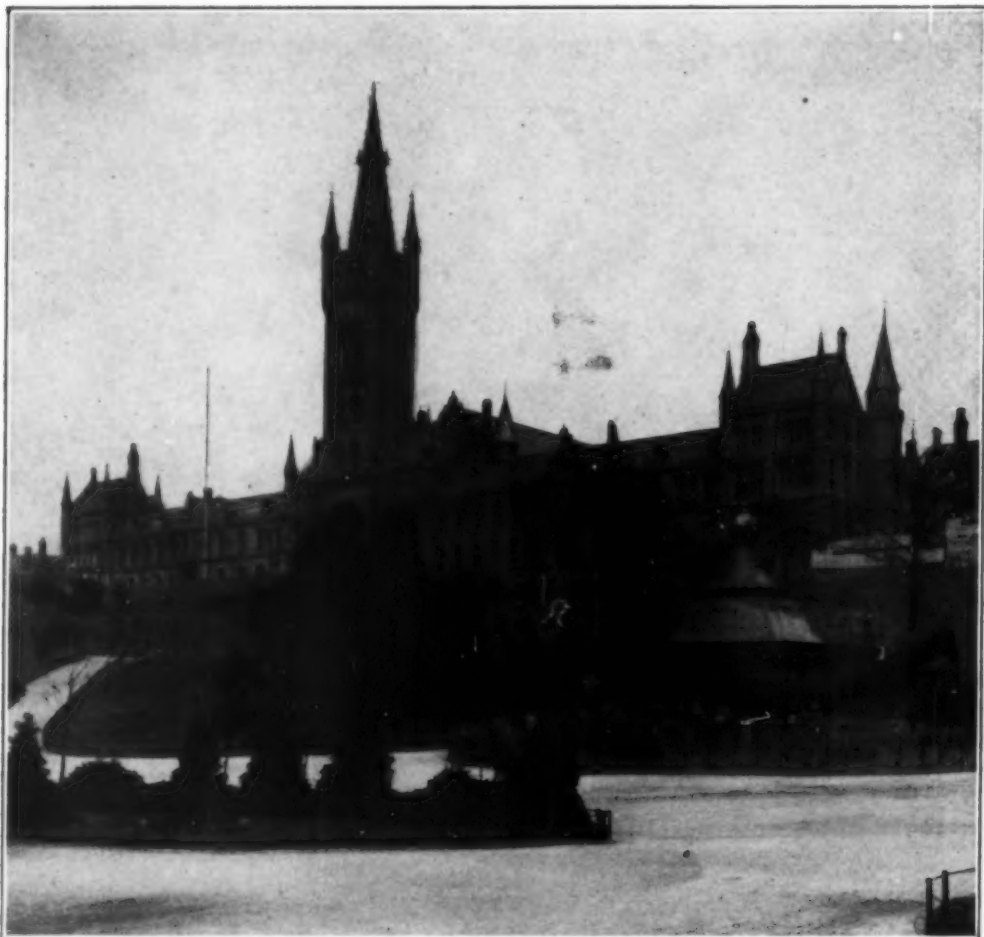
*Glasgow Cathedral.*

Courtesy, L. M. & S. Railway

through the munificence of individual citizens — many parks and open spaces to an aggregate of nearly 3000 acres to which must be added the Ardgool estate gifted by Lord Rowallan, 2000 acres in extent, some 40 miles away among the mountains of Argyllshire. The Corporation provides its younger citizens with 62 bowling greens, 121 tennis courts, six golf-courses, and 99 football grounds.

In matters of art Glasgow was among the first municipalities to take an active interest, and its collection magnificently housed in the Kelvingrove Galleries, erected at a cost of over a million dollars, has been declared by a competent critic

to be unsurpassed in United Kingdom as a representation of European painting from the 15th century onwards. Its nucleus was provided by a local coach-builder, Archibald McLellan, who about the middle of last century devoted much of his time and fortune to the purchase of works which could then be acquired for the proverbial "old song." For many years the collection lay neglected in a cellar, but when the Corporation awakened to its value it did not rest content till it had built — partly from funds raised by a successful Exhibition in 1901 — an art palace worthy of its contents in Kelvingrove Park. The foundation of the "Glasgow School" of



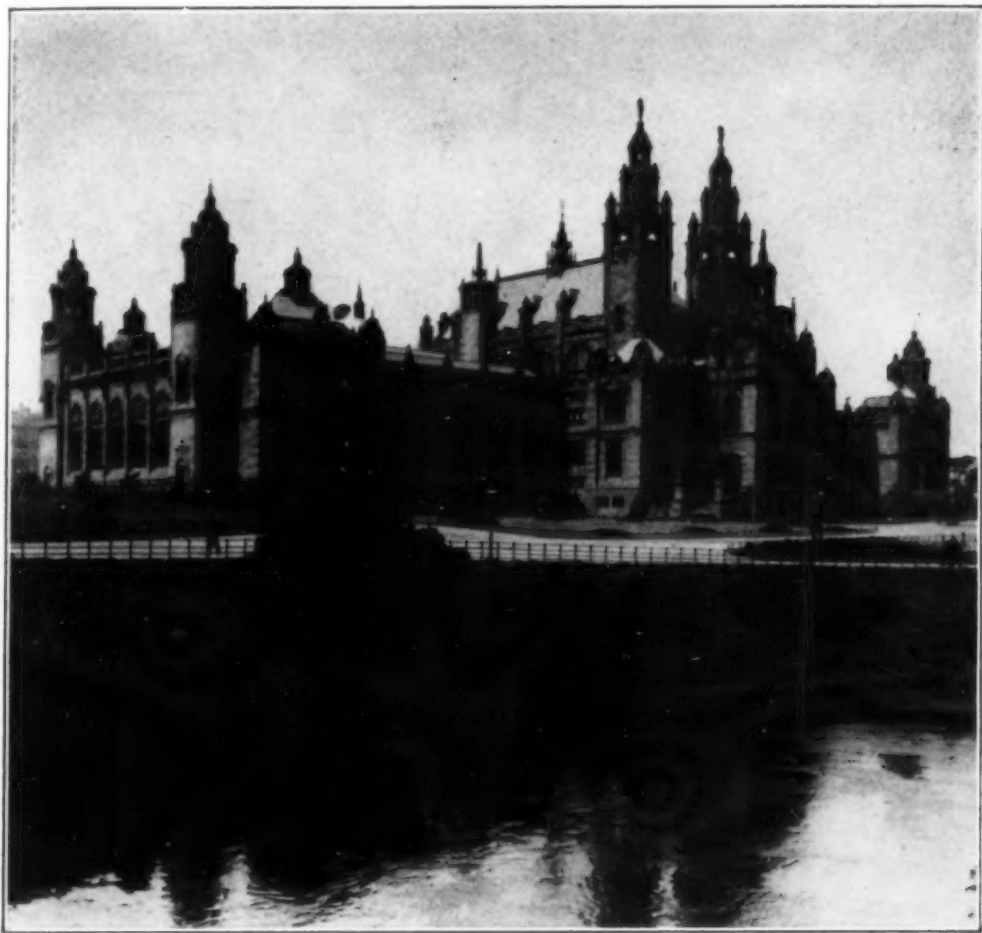
Courtesy, L. M. & S. Railway

Many famous names are on the roll of Glasgow University, fronting Kelvingrove Park.

art created a civic pride and interest. It is true that in the early days its pioneers, Guthrie, Henry, Hornel, and Lavery (almost the only survivor) went through hard times until they gained a recognition which extended far beyond their adopted city. Whistler could sell his pictures in Glasgow when he could sell them nowhere else and his "Carlyle," — bought for what was then considered the stupendous sum of a thousand guineas, — is now one of the treasures of the Art Galleries.

Glasgow's University, wonderfully situated on Gilmorehill, fronting Kelvingrove Park, and looking through a haze of smoke across the city, was founded

under the shadow of the Cathedral nearly five centuries ago and for nearly 400 years occupied a site nearby in the High Street till in 1870 the growth of the city, depriving the University of room for needed expansion, forced a migration westwards. Now it rejoices in one of the finest sites of any university in the world. Many famous names are on its roll: Watt and Kelvin in applied science, Adam Smith in economics, Lister and Sir William MacEwen in surgery, the brothers Caird in philosophy. During the past century the applied sciences have naturally figured largely in the academic curriculum, and the 5000 students now on its roll include many who come from the



Courtesy, L. M. & S. Railway

Glasgow is intensely interested in art. A magnificent municipal collection of paintings is housed in the Kelvingrove Galleries.

other ends of the earth to attend its classes in shipbuilding and engineering.

The business men of Glasgow have long been aware of the importance of science to industry and their munificence has added year by year to the number of its Chairs. Distinct from the university, but closely associated with it, are such institutions as the Royal Technical College, the West of Scotland Technical College, and the School of Art, to say nothing of the Western Infirmary and the other medical establishments in which the students learn the practical side of their business. Glasgow is in no danger of forgetting that "man does not live by bread alone," and it is typical of its civic pride that its University has

kept pace with its industrial and commercial growth.

It is a common saying, but only partly true, that "Glasgow made the Clyde and the Clyde made Glasgow." The city had a flourishing trade even when goods had to be brought overland from one of the Ayrshire ports; salted salmon and the farm produce of the fertile Clyde valley, and later its coal and iron went across the seas to pay for the tobacco and the molasses which came from the West Indies to be bought and sold by the "tobacco lords" who swaggered in richly-laced coats under the shadow of the Tron. The construction of a harbour (port Glasgow) 20 miles down the river proved an unsatisfactory

makeshift, and over a century ago the city council realised that with the advent of steam navigation it was essential and must be made possible to bring the largest vessels up the river. As sizes have increased, the channel has had to be deepened and widened, and even now the process is not complete as is indicated by the operations now decided upon in connection with the building of the new Cunarder.

But the Clyde has had to pay the penalty of its commercial importance. Less than a hundred years ago the salmon fishermen used to put out their nets from Govan where the ship yards now ring with the loud tattoo of pneumatic riveters. Thirty years ago a mild sensation, thought worthy of large headlines in the newspapers, was created when a fish was caught alive in Cessnock Dock. The incident was hailed as a proof that the murky and smelly waters of the river were recovering something of their former purity. Public opinion no longer tolerates the use of the river as an open sewer; every year sees an improvement and now a trip from the Broomielaw to Greenock is a delight to the eye without being too much of a trial for the nose.

As I write, many of the large ship-building yards which used to produce one third of all the vessels built in the United Kingdom are deserted and silent, a saddening spectacle; the finest plant in the world, representing tens of millions of capital, is out of use. But Glasgow has come through hard times before.

I could fill this article with statistics, but it may suffice to say that in 1930 the shipping

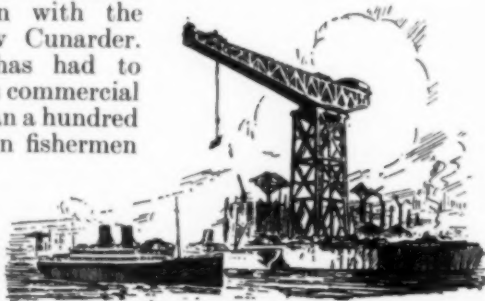
which passed through the port reached an aggregate of nearly $14\frac{1}{2}$ million tons, that the goods exported and imported totalled $7\frac{1}{2}$ million tons, that the revenue of the Clyde Trustees was over a million sterling, and that quays nearly eleven miles long enclosed 323 acres of docks and basins. These figures,

all of them records for times of peace, indicate that even in a period of acute industrial depression Glasgow Harbour is a great monument to the enterprise of the citizens. For the rapid and efficient handling of cargo it has few equals in the world, and its road and rail communications

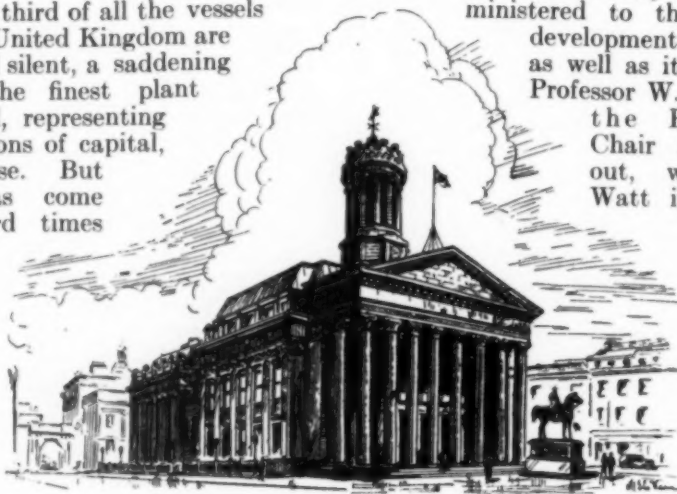
make it convenient for the whole of Great Britain.

More than half the population of Scotland is to be found within 20 miles of Glasgow Cross, and nearly a million and a quarter inhabitants within the greater city itself. This concentration, and the corresponding decline elsewhere, especially in the Highlands, is a development of the last century and a half, due largely to the discovery and exploitation of the rich mineral resources of the valleys of the Forth and Clyde.

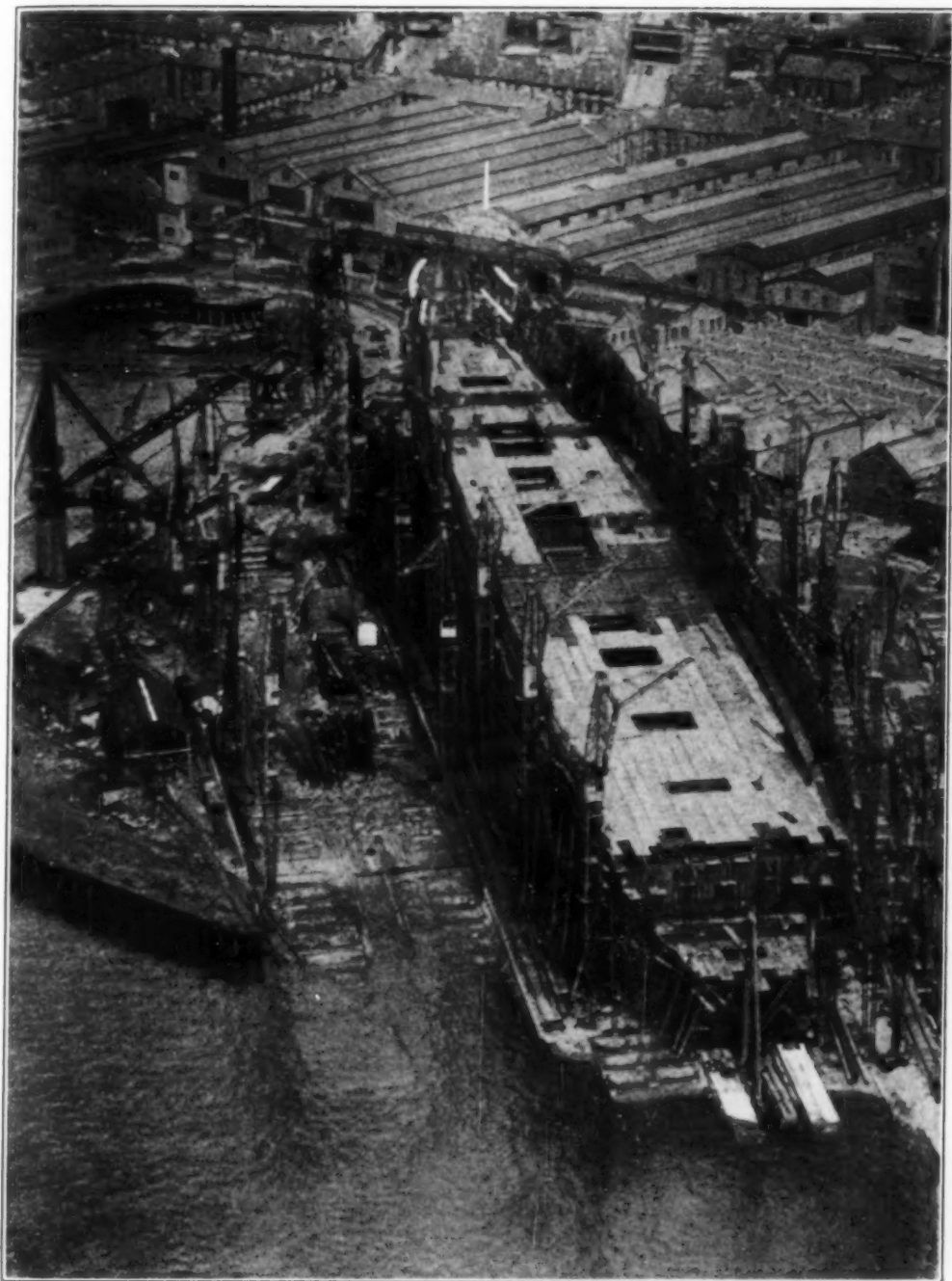
The district may claim to have ministered to the industrial development of the world, as well as its own. As Professor W. R. Scott of the Economics Chair has pointed out, while James Watt invented the steam engine, the discovery of Mushet in the use of black band ironstone and of Neilson in the use of the hot blast



A giant fitting-out crane.



The Royal Exchange



On the Clyde is building the new Cunarder, which, when completed, will be the largest and fastest ship afloat. The enterprising Clyde Navigation Trustees are widening and deepening the river to assure her safe launching and to maintain the pre-eminence of the Clyde in the building of ships.

quickened the pace of progress and during last century the Bairds, the Merrys and the Cunninghams, real "captains of industry," made fortunes for themselves,

created work for hundreds of thousands of artisans, and hastened the growth of what had been small Lanarkshire or Ayrshire villages into good-sized towns.



Ships of many flags and hailing from all parts of the world throng the busy quays of the great port of Glasgow.



Kelvin Hall, in which trade and other exhibitions are held.



The Highland loch from which Glasgow draws its pure and abundant water supply—Loch Katrine.

In some respects the development was too rapid. The demand for labour could not be locally supplied and the result was a large immigration of workers from the country districts as well as from Ireland and even from the Baltic countries. It should not be forgotten, therefore, that the "aliens" of whose presence complaint is now made, supplied the cheap labour on which the foundations of 19th century progress were laid.

Shipbuilding, so often thought of as a single industry, is in fact a combination of about a score of industries, with lines of demarcation so intricate that they have often given rise to foolish disputes. When a ship leaves port for the first time she represents the handiwork not merely of the craftsmen who have made the hull and the engines but of the electricians, the pump-makers, the steering-gear makers, the steel-rope makers, the furniture makers, the decorators and many others. Thus in the Glasgow area there has grown up classes of specialists whose output is in demand for every new ship wherever she may have been built. But Glasgow does

not depend on the sea alone. She sends locomotives all over the world; her sugar machinery, which she learned to make when sugar was a local staple industry, is still in demand where that industry flourishes; her mining gear is as familiar in South Africa and Australia as it is in Scotland; she has textiles, too, and though Paisley shawls have disappeared except as curiosities prized by collectors, Paisley thread employs tens of thousands of workers in its making, and at Dalmuir, just across the municipal boundary, are the works

where the sewing machines are manufactured. Thus, while the inter-locked heavy industries, — coal, steel, and shipbuilding, — are suffering from a common depression Glasgow holds its head above water owing to her variety of other activities.

Even the warmest admirers of Glasgow — among whom I number myself — would not claim that her face is her fortune. The handsome buildings which adorn her main streets, soon acquire a dingy hue from the smoke which a humid atmosphere keeps hanging about them, and in a few years granite and red sandstone alike assume a neutral tint which to the casual visitor seems monotonous. But Glasgow has her points of beauty. The Old Cathedral, the core from which the city grew, has looked across the valley of the once pellucid Molendinar (now an underground

sewer) for nearly 800 years, and though its surroundings have tended to grow squalid it still retains its interest as the scene of many historical incidents and as a well-preserved specimen of dignified architecture.



Ardgoil, the Corporation of Glasgow's Highland estate, situated on the shores of the sea-loch, Loch Gail.

ture. "Nane of your curlicurles and whigmaleeries" said Andrew Fairservice, and though it has suffered from vandalism, some of it well-meant and some of it otherwise, it is now guarded by a sympathetic and informed appreciation of its value as a great historical monument. Glasgow has grown so rapidly that traces of its earlier days are scanty, but this the most important of them is safe for all time.

From the Cross and the Trongate the glory of the days of the "tobacco lords" has departed, for the commercial centre



Kelvingrove, a spacious park less than two miles from the centre of the city.



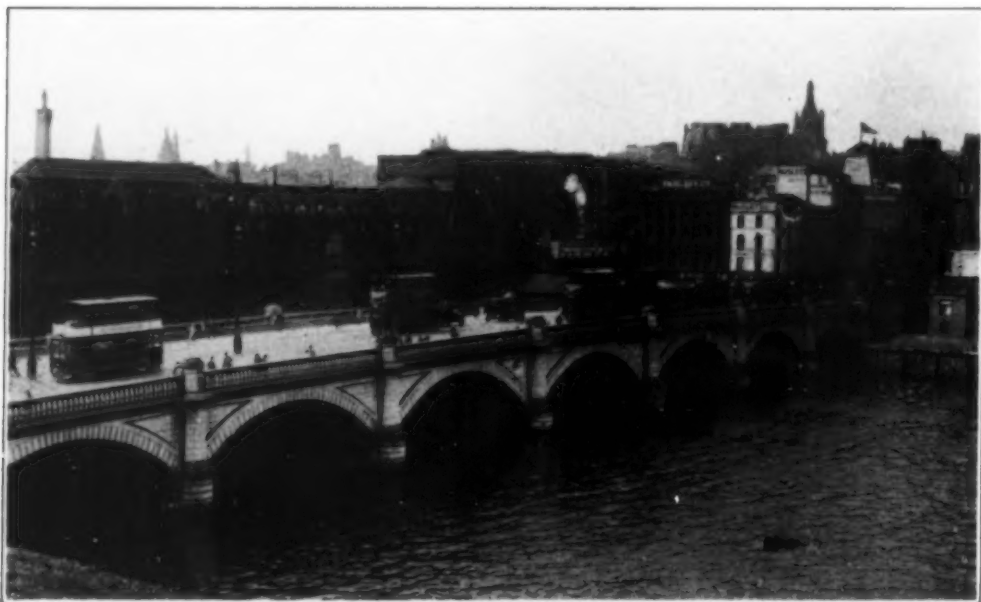
One of Glasgow's fine reference libraries, the Mitchell Library on North Street.

of the city has moved westwards, and big business is no longer done on the pavement or in tavern parlours, although it may be remarked in passing that few cities have finer restaurants — a feature due to the fact that the Glasgow man of business generally has his principal meal in the middle of the day and has no time to go home for it. Its tea shops, too, are famous for the excellence of their fare, the beauty of their decorations and the trustfulness of their owners, who permit their customers to select their eatables and to give a faithful account of what they have consumed!

Buchanan Street retains, apparently without challenge, its position as the fashionable shopping centre, and even those whose pockets are slender enjoy the sight of treasures in jewellery, wearing apparel, and furniture which are beyond their reach. For the man (and the woman) who must study prices — and with the possible exception of Manchester Glasgow has the lowest cost of living of any large British city — Sauchiehall Street is the attraction, and even that seems to have been raised in the commercial scale in recent years by the arrival of large stores varied by picture-houses. It is perhaps less of a

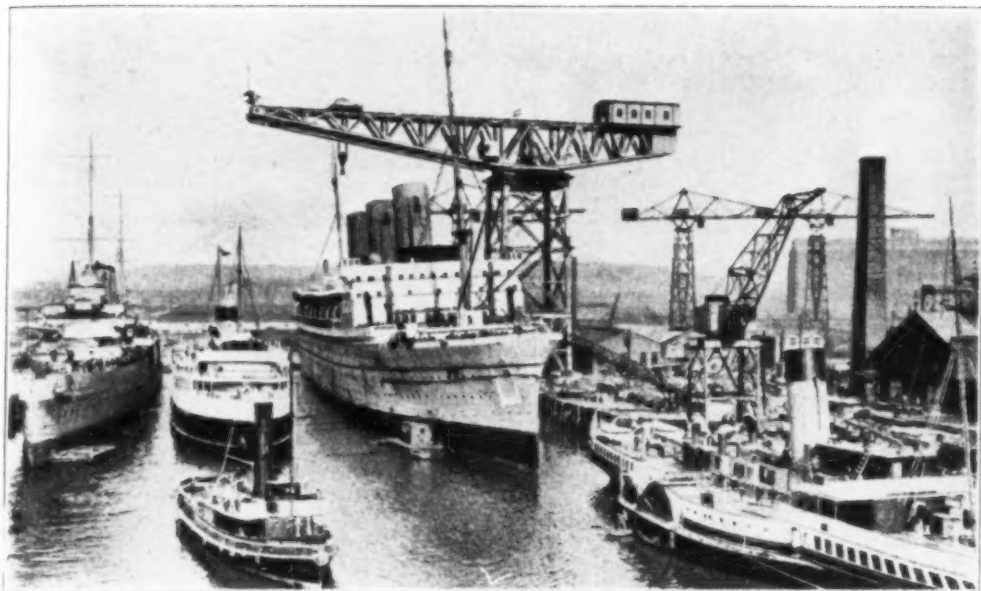
social centre than it was 40 years ago when "Panorama" was the gathering ground for the young "bloods" about town, and its virtual sacking in the course of an undergraduate "rag" led to the appearance in the police court of men some of whom afterwards became Members of Parliament. But Sauchiehall Street, with its graceful westward sweep over the hill, is a favourite resort for couples who are passing from the skylarking to the sweethearting stage, and he must indeed be a solitary who does not encounter there some friend or acquaintance. It is the place where the returned native is most likely to feel himself at home again.

The finest urban scene which Glasgow has to show is the undulating stretch of the Great Western Road, beginning, say, from Kelvinbridge with its view southwards to Kelvingrove Park and the heights of Gilmorehill and Royal Terrace. Not so many years ago the tramway cars ended at the Botanic Gardens and one was soon into country lanes and greenfields, with a view of the Campsie and Kilpatrick Hills and on clear evenings of Ben Lomond and the mountains of Argyllshire. Now, the country lanes are motor-roads and the green



Jamaica Bridge, Glasgow.

Courtesy, L. M. & S. Railway

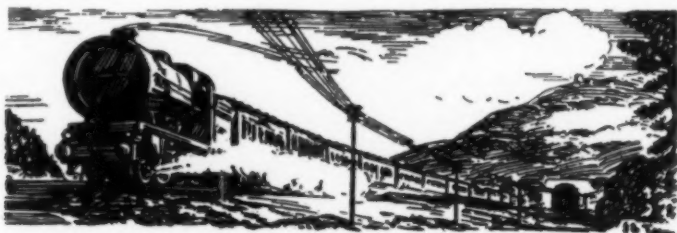


The Clyde dockyard of one of the largest shipbuilding firms in Great Britain. In the shipyard all classes of mail and passenger vessels, warships and oil tankers, are designed, built and engined.

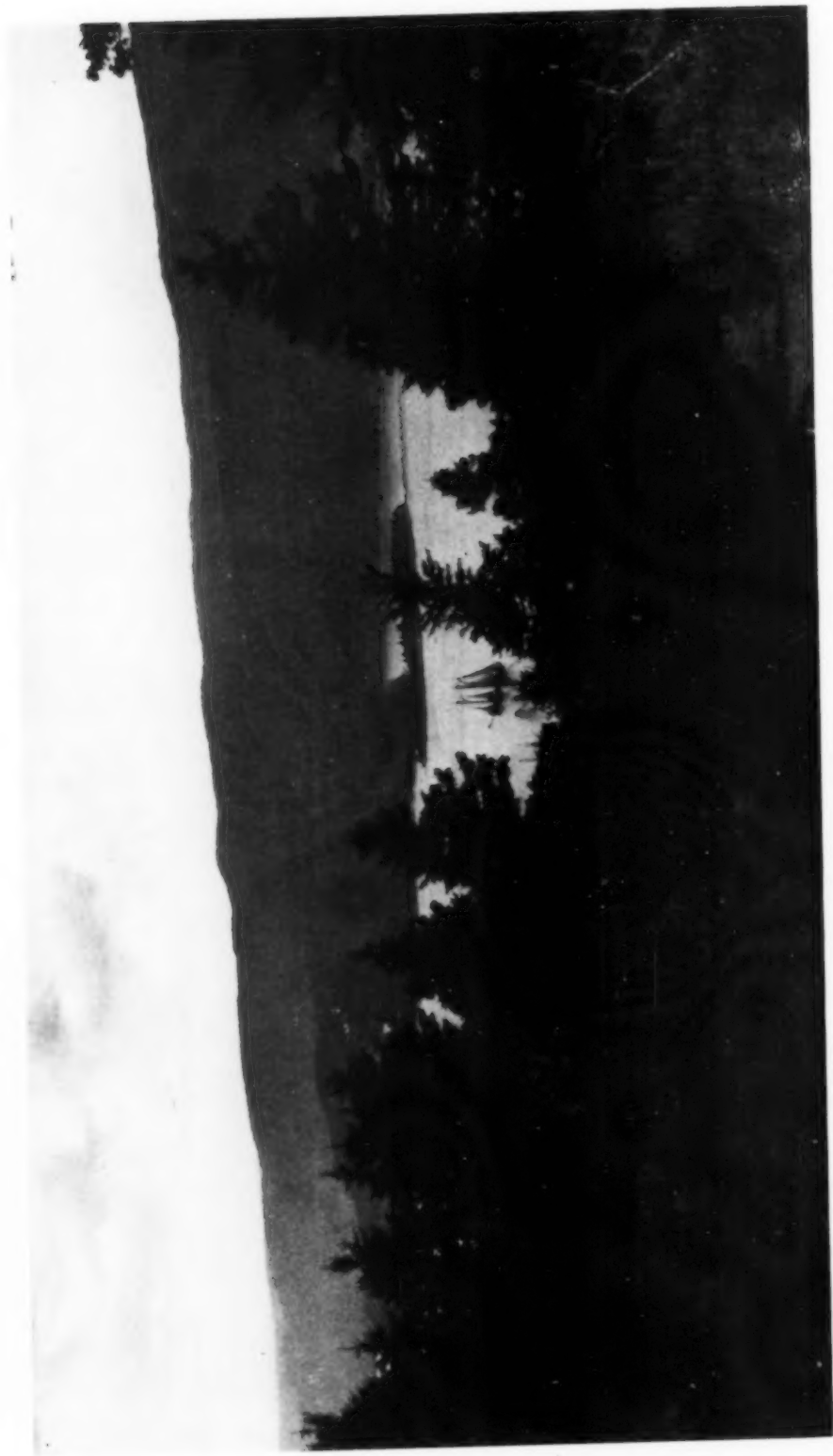
fields are covered with bungalows, pleasing enough individually as the expression of modest comfort and modern convenience, but lacking the dignity of the princely mansions of Western Terrace, now it must be added, tenantless or divided into flats.

But these are the effect and not the cause of Glasgow's industrial greatness. To find the scene of that it is necessary to go as few are likely to do except on business, to the shipyards along the banks of the Clyde, to the locomotive works of Springburn and St Rollox, to the steel mills of Parkhead, and even to the satellite towns of Coatbridge,

Gartcosh, Clydebridge and Mossend, to the coal-mines which stud the counties of Lanark and Ayr, and to the dye-works of the Leven and Lennox valleys. Only the brush of a Turner or the pencil of a Muirhead Bone could make these picturesque. But to the imaginative eye they are impressive as signs of man's power over matter, his triumph over natural difficulties, his ability to "turn grime to gold." Glasgow's claim to be "the second city of the Empire" may no longer be unchallenged, but at least she has made great contributions, material and personal, to the growth of that Empire and made her mark on even its most distant frontiers.



"The Royal Scot", crack train of the L.M. & S. Railway.



A glimpse of a corner of the beautiful Bras d'Or Lakes, one of the finest scenic features of the Maritimes.

Cape Breton Island

By EDITH A. DAVIS,

Photographs by Edith S. Watson

TO anybody interested in maps, the tortuous coastline of Cape Breton must be a continual source of delight, for it means romance from start to finish. Cape Breton is the starting-point, the extreme eastern boundary of the Dominion of Canada. More than that, it is an island, and as such is entitled to special attention. If Stevenson had ever sighted its shores he must have written another "Treasure Island," and we might now be able to read: "Before noon on the morrow we should sight Mira Bay or Sydney Harbour. We were heading S.W. by W., and had a steady beam and a quiet sea. The 'Bras d'Or' rolled steadily, dipping her bowsprit now and then with a whiff of spray." Dull indeed would he be whose imagination was not caught with this broken coastline of unexpected bays and harbours, into which at any moment might sail Captain Kidd, "Jas" Cook, or Bill Jukes, with canvas set and colours flying.

Cape Breton is about 100 miles long, and just as wide as you like, but not very wide. One could easily imagine that its shape changes every night, just for the sake of variety. It may have started out to be a common island, but if so the Atlantic Ocean must have discovered it one day, and run in and out about the nooks and crannies and valleys, until it became so enamoured of the result that it remained to enjoy itself. Then a poet came along with the name "Bras d'Or," meaning "Arm of Gold." So now we have a chain of beautiful salt water lakes, and countless islands within the lakes, and all within an island. If you can understand this, you know Cape Breton.



EDITH A. DAVIS

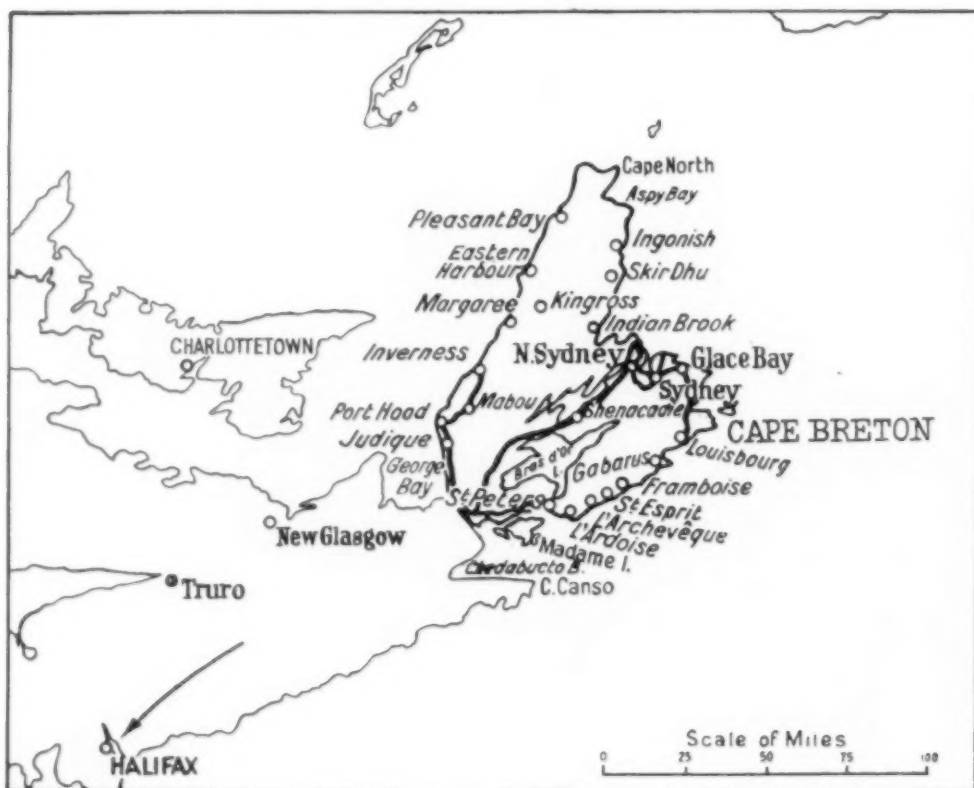
Born in Saint John, N.B., a daughter of the late E. G. Nelson, is the author of "My Own Canadian Home". She spent fourteen years in Cape Breton.

Geographically, it has a most interesting situation. Here begins the railway track that runs across the Dominion, and from here travellers may journey to the Pacific coast. About face to the sea! Vessels of all descriptions enter the harbours, the flags of many nationalities "flyin' aft," and both hemispheres are represented in the streets—bearded sailors in wooden shoes and jolly Jack Tars. Deep-sea cables, and wireless towers, by their strange wizardry bring their messages to these shores. It is

something to have an outlook over the sea.

Cape Breton was once an independent province, and although legislation has wedded it to the mainland, we still speak patronizingly of "down in Nova Scotia somewhere" just as the Haligonian of an older generation says "up in Canada." Cape Breton is somehow distinctive, an island in its own right. It is a land famed for its hospitality, a land of ministers, churches and sermon tasters; a land of curds, oatcakes, and the ever-ready tea pot; of smoky towns and beautiful country, of chilling spring winds and lovely summers; a land of crooked roads, romantic scenery, and a map incomprehensible to the mind of the average man.

In both people and scenery Cape Breton is supposed to resemble Scotland more closely than any other country in the world. To verify this opinion we must leave town and seek the country. This is the most pleasant task in the world, for Cape Breton is a veritable picnic ground, and the way to see it is to pack enough provisions for a few days, along with a frying-pan and a little kettle, and to set out in whatever vehicle one may possess at the moment.



Cape Breton Island.

If times are poor and it is a shabby car, so much the better.

We are now crossing Ross Ferry, and entering the heart of the country. As in Scotland, we must often cry, when bound for the highlands.—

"And I'll gie ye a siller pund
To row me o'er the ferry."

These frequent ferryings add greatly to the romance, inconvenience and expense, and so we ferry as often as possible. The steamer, which is capable of carrying many cars, is manned by a crew of able lads whose speech is flavoured with the Doric. The broad expanse of shining water, the little islands dotted here and there, and the rows of surrounding hills, might easily be a part of that far-famed country north of the river Tweed. Reaching the other shore we feel that we are striking "over the hills and far away," and so off we go, into the real country now, with natural scenery and old-fashioned roads. Here are rugged

hillsides, glimpses of water through the trees, countless burns and waterfalls, and dancing brooks at any one of which you may boil your kettle and have your first cup of tea in the open. It does not matter which one you choose, because there is always a better one around the first bend. Following the same principle, the third cup of tea tastes even better than the other two.

Had we ferried at New Campbellton, we should have seen the hills rise a thousand feet above sea level, the road leading humbly along the foot, and the car washed with spray. We travel now through the woods, and perhaps we may see a startled caribou crash through the underbrush. There is endless variety in the scenery; now a few rocky farms, the houses clean and comfortable, and if you cross the threshold there will be a cup of tea in your hand before you know it. Perhaps a turn in the road may reveal a scene of the wildest beauty, and



One of many headlands down towards Dingwall. With a cottage on the hillside and the sea beneath, what more could one wish for?

we half feel that we have only, like Scott's royal hunter, to

"Stand concealed among the brake

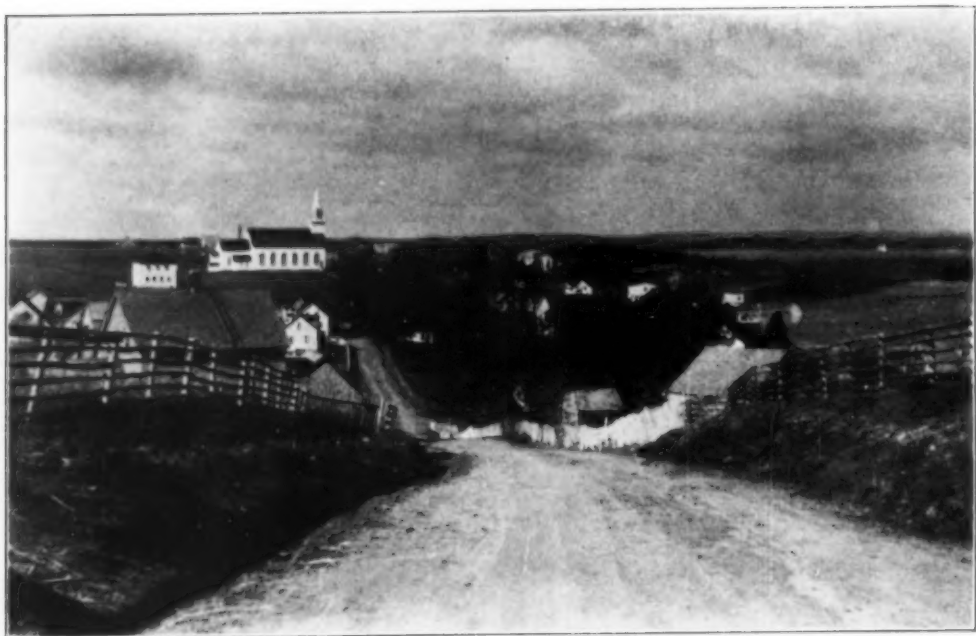
"To view the Lady of the Lake."

Or perhaps the ear of imagination can hear the sweet whistle of Alan Breck, hiding in the wood.

This road may take us to St. Ann's, Englishtown (which means another ferry), or to Murray Bay, with its lovely rolling hills and snugly-nestling churches. Or we can go on to Baddeck, a delightful village of prosperous houses, with its town hall, creamery, hotels, lighthouse, and little library; on through the luxuriant valley of Middle River of waving elms and prosperous farms, to the Margaree Valley of magic beauty, the happy hunting-ground where men for pleasure seek salmon and trout. A miniature Matapedia, it is so distinct and cut off that it reminds one of the

Doone Valley. It is not far now to Inverness, which, unlike its namesake in the old country, is a smoke-blackened mining town; but in a twinkling we arrive at the lovely district of Lake Ainslie, where the road winds close to the water's edge, as if it had fallen in love with all this beauty—as indeed it might. The names of this vicinity, too, as well as the speech of its people, smack of Scotland, and if you look promising you may be asked if you have the Gaelic. Here are Loch Ben, Glen Campbell, Gariloch, Glendale, Strathlorne, Claverhouse, Ben Eoin, and further, Loch Lomond. Who can these people be but descendants of Jacobite and Covenanter?

Or we might turn the head of our Pegasus due north, and run up the coastline to where Cape Smoky rears its stately head 900 feet above the ocean's



Where the road takes to the sea.



Codfish drying on flakes on South Bay, Ingonish.



Schooners seem to know when the camera is waiting and frequently strike a pose. Dingwall, Aspey Bay, with Cape North in the distance.



A dreamy morning, what an artist calls "atmospheric", in the region of Cape Smoky.



Sugar Loaf Mountain, on the road to Cape North.

breakers. The road climbs to the top of the mountain, and we get a dizzying sweep of panorama, and listen to the roar of the waves below. Away out on the ocean that tiny speck may be an ocean-going vessel, for everything here is on an immense scale, and even an ocean-goer is small by comparison. New delights greet the eye at Cape North, the barren slopes of Neil's Harbour, Ding-wall's caller air and lovely vistas, and, last place of all, Bay St. Lawrence. Here the road stops. The last cable station looks out on the Gulf of St. Lawrence. You feel that you have accomplished something, for you have come to the end of a road.

In travelling through Cape Breton we need never go in a given straight line, for there is no such thing. If, as Barrie says, the paths in Kensington

Gardens made themselves, the same must be true of these highways, for man surely never planned anything so delightfully crooked. But probably some enterprising engineer will some day appear and straighten them out, and then we shall be able to travel more miles in an hour, but what we shall miss will never be recorded.

Cape Breton's ancestors did not all hail from "The Land o' Cakes and Brither Scots," however, and no picture could be complete without a survey of the French districts in the south, such as Madame Island, joined to the main island by a slender bridge. Arichat is a typical French village, looking out to sea, its big white church on the hill. Not far away, River Bourgeois is a hamlet unique in situation. It lies



Diligent women, at work in the open and happy children complete the picturesqueness of the Acadian villages.

around an oblong harbour, in a single row of houses, some perched saucily on the hillside, others hanging over the edge of the cliff, as if they were trying to be boats. Bright paint is in evidence, sometimes two colours on the same house, decorative curtains, and always an attempt to brighten things up. Little boys never fail to touch their caps to the passing strangers, with charming courtesy.

In other localities natives of Newfoundland have established new little "Ancient Colonies," and being of English descent they still cling to the speech of Cornwall and Devon. Their language is pleasingly reminiscent of Kipling, and of Blackmore's "Lorna Doone."

In the industrial sections are gathered workers from every nationality in the

world, and from these melting-pots will come, for better or worse, new Canadians. Even the Gaelic-speaking negro of Kipling's "Captains Courageous" is here in the flesh.

And so, Cape Breton is all things to all men. To some it is a picnic ground, designed by a kind nature for fishing and camping out, and for delightful motor trips; to others it means fish, dried and otherwise; or mines, coal, steel plants, strikes and labour troubles; to others farming is the chief association. While all these are parts, however, not one alone is the heart. Most typical is a picture that remains in my memory, so exquisite that I wish all lovers of nature, who have grown weary of jazz bands and board walks, might experience its beauty. Let us summon the pen of



Fishing schooners at the wharf in Ingonish.

Sir Walter Scott to describe the early morning scene;—

“Fair as the earliest beam of eastern light,

When first by the bewildered pilgrims spied,

It smiles upon the dreary brow of night,

And silvers o’er the torrent’s foaming tide,

And lights the fearful path on mountain side.”

We had broken camp early on a dull and foggy morning, and for about two hours travelled on without seeing anything of interest in the greyness. The road then brought us to the shores

of the Bras d’Or Lakes, and the mists lifting, the grey became mixed with a rosy brightness, and out of it grew a great sheet of water smooth as a mirror, reflecting a row of birch trees on the bank. Close to the lake squatted a little hut, hardly large enough to be a man’s dwelling, with a few rusty tools scattered around, and two or three hens contentedly strutting to their breakfast. Back and forth on the shore, between his dwelling and the lake, strode the lord of the mansion, bagpipe under his arm, sending out into the fragrant air the wild sweet notes of Scotland’s music. Whether he was a master of his art, or whether the sudden



A spinning wheel maker, in his shop at Cap la Ronde, Ile Madame. This man makes spinning wheels for all the surrounding country.

surprise made the incident memorable, it is hard to tell; but as the music of the pipes blended with the wild natural scenery one thought of the money-makers who were at that hour bending to their desks, perhaps under electric lights.

What would some of them have given to change places for an hour with this poor piper who could afford thus to greet the morning sun!

So here is an unspoiled summer land where diabolical bill boards and hot



All aboard for a night's fishing wherever the coddling is good out of Ingonish and in the region of Cape Smoky. Codfish is the mainstay of industry in these far eastern Canadian waters, and luck hangs on schooners of this type fishing the waters overshadowed by Old Smoky.

dog houses do not make desolation out of beauty; where little rings of blackened stones beside the countless brooks mark the progress of many happy pilgrims; a land where you may hear

the pipes of Pan calling to you to forget the cares and worries of this funny businesslike world, and to throw yourself whole-heartedly into the pleasures of beautiful scenery in endless variety, and the "joy of the open road."



Rubber

By JAMES HOOPER

IT has been said that bread is the staff of life.

It has also been said that all work and no play makes Jack a dull boy. If it is true that we could not live without bread, it is assuredly truer that we could not play without rubber. Rubber plays a more important part in our lives than we realize. Without rubber, we would not have our automobiles, our golf, our tennis, or any of the relaxations from the trials and tribulations of the long working day that we are accustomed to. Rubber also plays an important part in our industries. It carries electricity into our homes (for without insulation there could be no electric light) and we meet it and use it daily in many other ways in our offices and factories.

Canada is normally the fifth largest importer of raw rubber in the world, ranking after the United States, the United Kingdom, France and Germany. In 1931, however, Japan and Russia also ranked ahead of Canada in the imports of raw rubber. Existing plants in Canada represented in 1931 a capital of more than \$67,000,000., and gave employment to over 12,000 workers, receiving nearly \$12,000,000 in salaries and wages and producing goods to the value of nearly \$53,000,000. The interest of Canadians in the history of rubber is, therefore, much more than academic.

The first known references to rubber occur in a work of P. Martyr of Ang-hiera, published in 1525, which contains a description of some rubber balls which he had seen employed by some natives in Mexico for their sports. It was not until the year 1736, however, that LaCondamine, a member of an expedition sent to South America, gave to the world specific information with regard to rubber-bearing trees and the methods



Born in England and educated at Shrewsbury School. For several years he was Divisional Superintendent, Kerala Rubber Estates, South Malabar, India.

of extracting rubber. Many attempts were made to employ rubber for commercial purposes, but without much success, until Charles Macintosh of Glasgow succeeded in satisfactorily waterproofing garments. This success laid the foundations of the great rubber industry.

For many years Brazil was the chief source of supplies and on account of the general excellence of its quality, fine, hard Para was preferred above all other rubbers. There was a limit, however, to the quantity of this rubber procurable, and

the authorities of Kew Gardens determined to try to find out if rubber seeds could be procured from the Amazon district and planted in British possessions in the East. With great difficulty owing to the weak vitality of the seed, this was accomplished. The seeds received were planted in Kew Gardens, and the seedlings produced were transplanted to Ceylon and Singapore in 1876. Survivors of these original plants are now large, vigorous and healthy trees in the Government Experimental Stations in Ceylon, and Singapore, while their descendants may be seen covering hundreds of square miles in Southern India, Ceylon. The Federated Malay Straits, the Straits Settlements, Sumatra, Java, and Borneo. It is from the rubber estates in these faraway lands that Canada's and the world's main supply of rubber now comes.

The first stage in the opening of a rubber plantation is, of course, the selection of land. The most suitable land for rubber has proved to be low rolling foothills to a range of mountains. The reasons for this are threefold: firstly, health; that is, not too close to low-lying swampy lands; secondly good drainage; and thirdly, not too great an



Burning off the jungle after felling. In the writer's experience, coolies do not usually venture into the burned area until some time after this process, owing to the smoke and glowing embers. The two gentlemen depicted above must be endowed with both lungs and soles of leather.

elevation. On high lands one meets with too many rocky, barren areas that mean loss of plantable acreage. The testing of soil is, fortunately, simplified by the fact that any land that carries a luxuriant growth of jungle is suitable for rubber. The richness of the soil in the tropics is remarkable, and the growth of vegetation extremely rapid. It is not at all infrequent to see the ugly scar left by a forest fire completely erased within a period of from two to three years.

The next step in the process is clearing. All valuable woods such as ebony, rosewood, blackwood, etc., and all other woods suitable for building purposes, are first removed. The balance of small trees, vines, creepers and bamboos are then felled and left to dry out for a couple of months. Fire is then set to it, and the tangled jungle burned off. Roots of trees and other debris are removed and the land is then ready for planting. Nurseries have to be made, and the

seed set out in beds. The small seedlings are weeded out and the best transplanted to large beds and left to mature until they are a year or 15 months old.

While this is being done, the land must be prepared for planting. It must first be lined. The young trees are to be set out at 100 to the acre, i.e., planted 20 feet apart each way. They are to be planted in rows or straight lines running, usually, north and south and east and west. Pits are dug three feet deep and three feet square, and the soil sifted for stones and then replaced. This is to eliminate obstruction to the rapidly-growing tap root of the young tree. The saplings can be set out in their prepared beds or pits, and do not require much care until the day they are large enough to tap, or about six or seven years later.

In the meantime, work goes on apace. Roads have to be made to all parts of the estate and buildings put up to house the human beings who are to spend the best part of their lives working to pro-



Fourteen months old stumps cut ready for planting out. It may be seen that most of the plants have already attained a circumference of four or five inches at the base. Wood has formed well and the young trees are straight and well moulded. Irregularity in shape and, above all, crookedness of stem, must be avoided. The reason for stumping is to force a quick growth of shoots and extra foliage.

duce the article so essential to modern civilization. First there are "lines", or barracks, to be put up for the coolies, and then small houses for the native overseers, and the large, airy bungalow for the estate superintendent. When these are finished there comes the necessity for a hospital and dispensary, and then lastly, the factory and coagulating sheds, ready to handle the liquid rubber, or "latex", as it is called, when the trees are ready for tapping.

If the land is at all steep, horizontal drains have to be cut at intervals along the hillsides to prevent "washoff" of soil during the abnormal monsoon prevalent in these parts. From 175 to 225 inches of rain may be expected during the rainy season, and most of it in the latter part of June and the month of July. One hundred inches of rain, or two and one-half times as much as the annual rain and snowfall in Canada, may be expected in the month of July alone. The writer has seen a 12-inch

rain gauge overflow in 24 hours. The heavy downpour washes off about four inches of soil annually from steep land that has not been properly drained. These drains hold up the soil as it is washed down and when the monsoon is over can be reopened and the soil that has filled them up, thrown back above.

As soon as the trees have reached such a height that they are 18 inches in circumference, measured at a height of 36 inches from the root crown, they are ready for tapping. The tapping of a rubber tree is a very different process to that of tapping our own maple trees and entails a high degree of skill. Boys from the age of 14 to 18 years are the best tappers, being light-handed and quick. The knife used is a type of chisel, about one and a quarter inches in width and five-eighths of an inch thick. The cutting edge, instead of being straight as in an ordinary carpenter's chisel is cut back into the



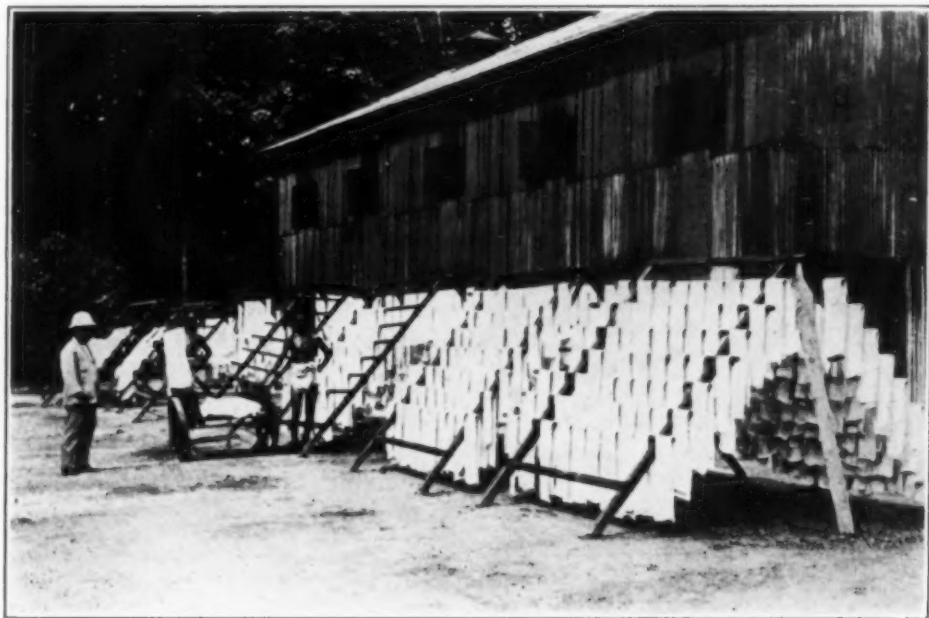
Transport to factory, but all estates are not fortunate enough to own a rail system, and most of the transportation is done by the tapper himself. Note the bullock-drawn train. Most of the transport in the Far East and all of the agricultural work is done by these useful animals. There are very few horses in these parts, and they are used for the saddle only.



Six weeks old seedlings after thinning out, in a rubber nursery. The miniature rubber tree with its full-size leaf is quite a phenomenon. There can be very few forests of plant life that grow so quickly or are as easily looked after as the rubber tree. There are sufficient seedlings here to plant two or three hundred acres of prepared ground.



Tappers are usually paid according to the amount of their crop. Here can be seen the process of weighing. A small bulb-like instrument is dropped into a sample of the latex to determine the quantity of dry rubber per gallon. The depth to which it sinks indicates on its graduated shaft the richness of the mixture.



Dripping. Sheets being dried in the sun after washing and soaking. This is just to remove surface moisture. The sheet is still pure white and for the first time is resilient.

knife in the shape of a V. The chisel also has two vertical sides, also coming to a sharp edge at the point of the V, so that there are really four cutting edges, two horizontal and two vertical. This enables the tapper to cut into the bark of the tree while holding his knife horizontally.

The latex flows from the root upwards through a series of cells in the thickness of the bark. A good tree will have as

the horizontal at a height of 36 inches from its lowest point to the ground. The length of this cut is exactly one-half of the circumference of the tree. It is cut at an angle to allow the latex to flow down and drip off the lower end. A tiny zinc trough is gently tapped into the bark just below the bottom end of the cut to carry off the latex, which drips into a half coconut shell placed under-



The useful bullock again is employed to transport the cases of smoked sheet to the nearest railway centre and shipping agent. The green feathery cocoanut tree and the red earth and roads, together with the highly coloured garb of the native, blend in a characteristically Oriental pageant of beauty which causes many a throb in the heart of the exile in a far western land.

many as 40 layers of these cells in the $\frac{3}{4}$ -inch bark covering it. It will thus be readily understood that the deeper this bark is cut into the greater the number of cells that are severed, and the greater the amount of crop procured. The whole amount, however, must on no account be removed, or the tree will die. The skill comes in the depth to which the tapper can go without "wounding" or exposing the wood of the tree.

When the tree is "opened" a cut is made at an angle of $22\frac{1}{2}$ per cent from

neath it, and supported against the tree by a stick or a piece of bamboo.

Since the cut is made with the chisel, a groove has been cut into the bark to the greatest possible depth. The bottom side of the groove forms a ledge round the tree, down which the latex runs.

The trees are tapped every second day and a fine layer of bark is shaved away from the ledge. It will thus be seen that the bark is being gradually exhausted downwards towards the root. In one of the illustrations it may be seen



Tapping. Boys in their 'teens are preferred for this work for their speed and deftness. Tapping is highly skilled labour and differs from the operation on the maple tree in that the "Latex" (milk) or rubber flows through the bark in a series of minute cells. A fine lacquer of bark is left on the tree and in 10 or 12 years grows to its full thickness again, and may be reopened. The tree is tapped for half its circumference at a time, and it takes six years, tapping every other day, to exhaust the bark on one side of the tree.

that the original cut was made at a height of about 48 inches from the crown, and that approximately 20 inches have already been pared away. The thickness of the shaving cut should be $\frac{1}{30}$ th of an inch, allowing half an inch of bark for the 15 tapplings in each month or six inches per year. At this rate it takes six years to exhaust the bark on one side of the tree, and another six years'

tapping may be had on the other side, making 12 years in all. By this time, the fine layer of bark left over the wood has grown out again to its full thickness, and tapping may be re-commenced on the first side and the original cut reopened.

By this method, as far as it is known, the tree may be tapped indefinitely, if disease does not take a hand and

destroy it. The estates, however, are not yet old enough to give an estimate of the probable life of a rubber tree. The tree grows to a large size, and the writer has heard of a native tree in Brazil that is said to be over 130 feet in circumference at the base. This is probably exaggerated, but a 30-year-old tree will often attain a circumference of 50 to 60 inches.

A rubber estate is divided into blocks of 300 trees, each coolie having a block to tap daily. He must be in his block by daybreak in order that he may finish his tapping before the heat of the day comes and the rubber is congealed or coagulated on the cut as it flows up, and fails to reach the cut. He should have finished his tapping by 9.30, and have collected and brought his latex to the factory by 11.30. It is here weighed. A section of bamboo is filled with a sample of his crop, and a metrolac is dropped into it to determine the content of dry rubber in it. The metrolac is a bulb-like instrument ending in a long spindle or

shaft which is graduated and shows, according to the depth to which it sinks, the amount of dry rubber to the gallon in each coolie's crop.

The latex is then strained into large tanks and standardized to one and a half pounds to the gallon; that is, water is added until the metrolac reading of the mixture reads $1\frac{1}{2}$. It is then poured into flat tins, one gallon to each, and four ounces of a mixture of acetic acid and water, one part of acid to 30 of water, is added to assist further coagulation.

Within six to eight hours the latex has congealed in sheets to a pulpy, cheesy, white mass that is mostly water and which has a horrid sour sort of smell. These sheets are then run through a series of rollers, which remove the water, and the last of which stamps the sheet with the pattern used by that particular estate. The sheets, still pure white, are then hung up on racks for the surface moisture to dry and later removed to the smokehouses. They remain in these



Draining is just as necessary on very flat land as the terracing on hilly ground. This area would become a marsh without proper facilities for carrying off the enormous rainfall prevalent in tropical countries during certain months in the year.



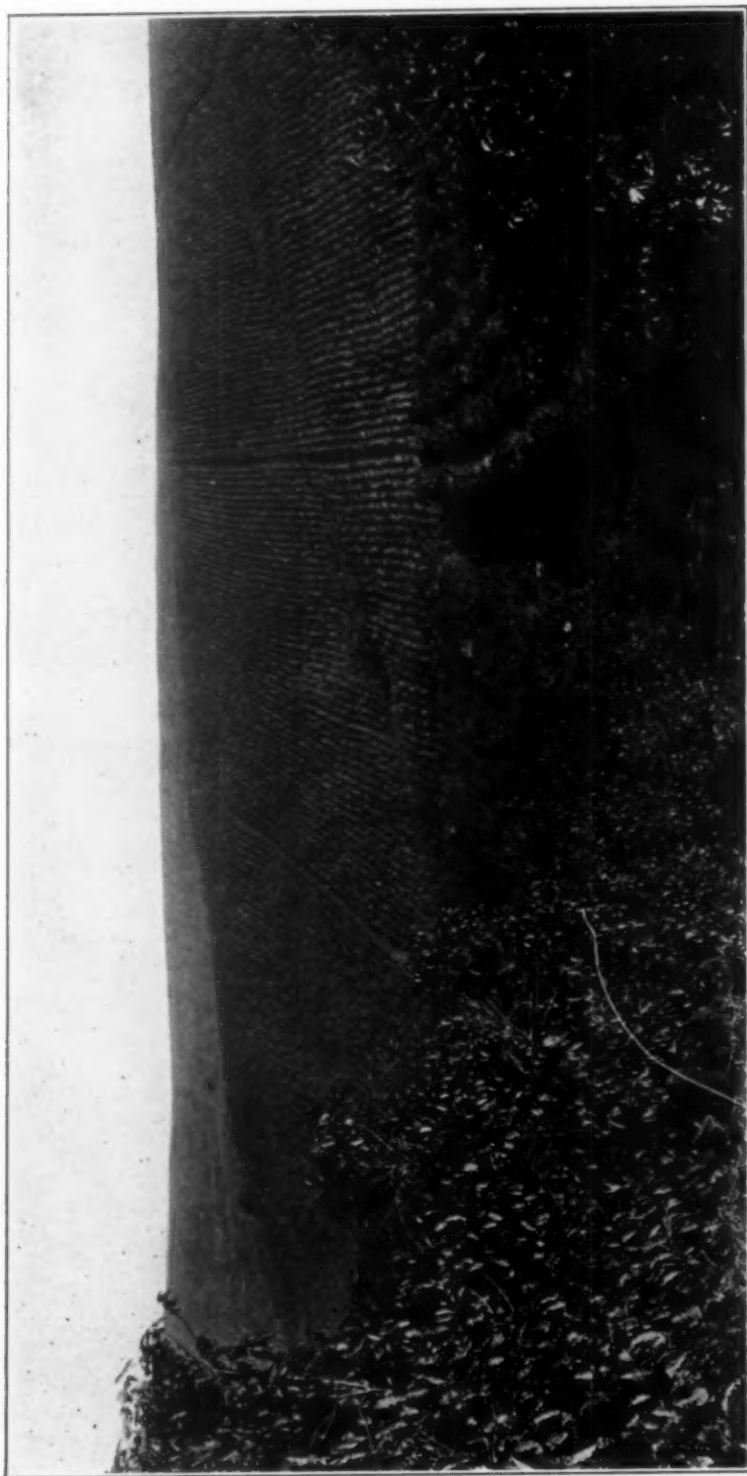
Stumps being set out in prepared pits or beds. The mamooty, or heavy type of hoe, used for digging in this part of the world, may be clearly seen here. Gently rolling land such as this is ideal for rubber. It affords good drainage but is not so steep that a considerable amount of surface soil may be washed off during the heavy rains.

for a period of from 10 days to two weeks, when they lose their opaque whiteness and become brown and semi-transparent, and, for the first time, resilient. This process is practically the same as that used for curing bacon and other smoked meats, except that the temperature has to be carefully regulated in order to prevent the sheets developing air bubbles if the temperature is too high, or becoming rusty if it is too low. Lastly, the sheets are packed into chests and shipped to the London markets.

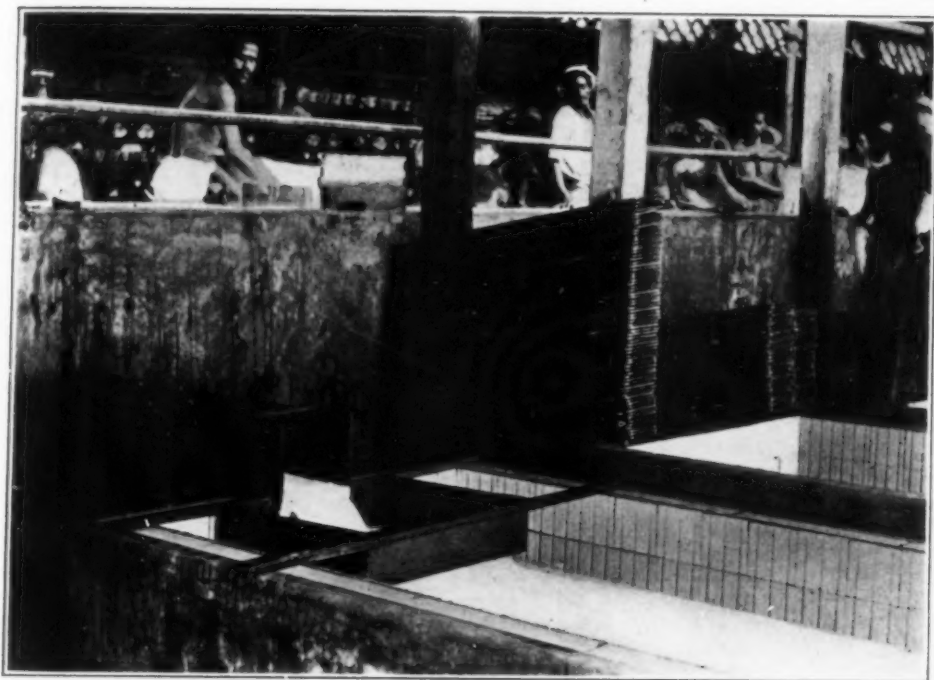
Methods used on some estates in southern India are slightly different from those shown in the illustrations accompanying this article. For example, the long thin strips shown drying were made by slipping slats into the grooves of the coagulating tanks and allowing the rubber to coagulate right in the tanks. This method has its advantages, but the resulting sheet is ungainly to handle and pack, and most estates have discarded this method for the individual

plan, which produces a sheet or a more uniform size, and is easier to handle and clean.

The reason for the tremendous fluctuations in the price of rubber in late years is that reserve stocks of rubber on hand in the world's markets have been too large, causing drops in price which in turn caused the rubber companies to lose money on every pound of rubber produced and sold. To remedy this state of affairs the "Stevenson Scheme" was brought into operation, to curtail the production of rubber until such time as the reserve stocks became depleted and the market returned to normal. In 1925-26 the stocks had become so depleted that the buyers and users of raw rubber feared a rubber shortage, and prices soared until the high price of a dollar a pound had been reached. In 1926 the rubber-growing companies, which had not been able to pay dividends for a decade, paid dividends of from 40 to 100, and in one case, 127 per cent.



This illustration gives a very fair idea of the plan upon which all estates, either rubber, tea, or coffee, are laid out. The roads can be clearly seen running at regular intervals through the plantation. This particular view is of a Brazilian coffee estate, and shows an area of approximately two thousand acres.



After weighing, the rubber is poured into coagulating tanks such as these and acid and water are added to help congeal the liquid into a solid mass. Into the grooves on the sides of the tanks metal partitions are slipped so that separate sheets are formed during this process.



An example of extreme terracing on hilly ground. Without this, as high as four inches of soil annually would be washed away during the monsoon period. The trees shown here have been tapped for the first time.



Collecting the latex. Three hundred trees constitutes a "block," or daily task, and these must be finished before the heat of the day comes along and coagulates the rubber on the tree, preventing free flow. Collection takes about one hour.

The entry of the United States in a large way into the rubber field may have far-reaching and unexpected results. The opening-up of an additional six million acres of plantations in South America by the Ford and allied interests, on the face of it, would not seem to help an industry that, at the moment, is oversupplying the world's needs. But the new venture may do much to stabil-

ize the price of rubber. In addition, it is only lately that new avenues have been opened up for the use of rubber. Roads have been successfully made of it, and the day may soon come when our city traffic will glide over highways paved with that sound-deadening and most resilient of substances—rubber.

The photographs in this article, with the exception of the frontispiece, are reproduced through courtesy of the Rubber Growers' Association.

THE SMOKE OF THE BRITISH EMPIRE

LUDGATE HILL

Ludgate Hill is well known to all visitors to London—extending from Ludgate Circus, it is a continuation of Fleet Street and The Strand, ending at historic ST. PAUL'S at the hilltop.



THIS famous Empire Cigarette embodies all the sweetness, mildness, coolness and flavour which lovers of good cigarettes in every land associate with English cigarettes.

Canadian smokers have shown a marked preference for W. D. & H. O. Wills' Gold Flake Cigarettes—the Cream of the Crop—mellow and fragrant as a quality cigarette always is.

W. D. & H. O. WILLS'

GOLD FLAKE*Cigarettes**A Shilling in London**—A Quarter here*

Pocket Tin of Fifty—55 cents



Editor's Note Book

The Annual Meeting of the Canadian Geographical Society was held in the Lecture Hall of the National Museum in Ottawa, on Thursday February 16, 1933. In his presidential address Dr Camsell outlined the embarrassing circumstances resulting from the failure of the Woodward Press and the difficulty the Executive Committee had had in making suitable arrangements for the publication of the JOURNAL. If had been found impossible to complete these arrangements in time to get out a number in either October or November, and it was only by desperate efforts that it had been found practicable to publish the December number. Now the JOURNAL was running smoothly once more, and it was hoped and believed that there would be no further interruptions to its progress.

The election of officers resulted as follows: President, Dr Charles Camsell, Deputy Minister of Mines; First Vice-President, Charles G. Cowan, Managing Director of the British American Bank Note Company; Second Vice-President, Dr J. Mackintosh Bell, Consulting Geologist; Honorary Secretary, Ernest S. Martindale; Honorary Treasurer, F. C. T. O'Hara; Honorary Counsel, O. M. Biggar, K.C. The following Directors were also elected: Colonel Wilfred Bovey, McGill University; Major General A. G. L. McNaughton, Chief of the General Staff, Ottawa; Watson Sellar, Comptroller of the Treasury, Ottawa; Hon W. A. Buchanan, Lethbridge, Alta.; and the following Directors were re-elected: Dr Charles Camsell, Dr J. Mackintosh Bell, Charles G. Cowan, Colonel O. M. Biggar, K.C. and Dr J. B. Tyrrell.

In view of difficult financial conditions at the present time it was decided to make no arrangements for lectures during the present season.

* * *

A propos of Professor Goforth's article on Jehol, the following extract from a letter from appeared recently in

the *Christian Science Monitor* will be interesting, particularly to those who cannot see a strange place name without trying to pronounce it. Referring to the difficulties of romanizing Chinese sound it says:—

"The most puzzling puzzle is Jehol. Jehol begins with a French j, the sound being a cross between a j and a y, obtained by ejecting a j with the tongue in a roll! And that's only the beginning of the trouble. The remainder of the word might be rendered thus: "haerh."

Apparently something between a hoarse sneeze and clearing the throat!

* * *

We are reminded by a note in the January number of the BULLETIN OF THE GEOGRAPHICAL SOCIETY OF PHILADELPHIA that at the present time 34 countries, including Canada, are participating in a programme of Arctic study and exploration. This is what is known as the Second International Polar Year, the first having taken place fifty years ago. Russia, which has an even longer Arctic frontier than Canada, is taking a very active part in the present programme. The Soviet Union maintains a very complete system of radio and scientific stations in the Arctic, and has sent a number of expeditions to the polar regions for purposes of research. One of the most interesting of these was the voyage of the ice-breaker 'Sibiryakov', with a party of Russian scientists under the leadership of Professor Otto Schmidt, President of the Arctic Institute. The purpose of this expedition was to carry out that dream of the centuries, the making of the North East Passage. Sailing from Archangel, on the White Sea, the 'Sibiryakov' reached Bering Strait in October, having completed the passage without outside aid. This is in its way a much more spectacular achievement than that of Amundsen, who first made the North West Passage in the 'Gjoa', but took several years to drift through. At any rate, Professor

Schmidt's achievement removes one more of the feats of endurance and hardihood that have tempted the world's explorers.

* * *

The death of Henry Grier Bryant, early in December, removed an American explorer, geographer and mountain-climber whose energy and widespread interest had taken him into many parts of the world. In 1891 and again in 1912 he led expeditions to explore parts of Labrador. He was a member of the Peary Relief Expedition in 1892, and two years later led the Peary Auxiliary Expedition. Many of his summers were spent in the Canadian Rockies, climbing or attempting to climb some of the more difficult peaks. He was first to cross the Malaspina Glacier in 1907, and at that time made an unsuccessful attempt to climb Mt St Elias. He was a fellow or member of many of the larger geographical societies, and took a keen and practical interest in questions involving the increase of geographical knowledge.

* * *

We have it, on the authority of that Arctic traveller Klengenberg, that fashions in dresses have the same compelling interest to the Eskimo girl's mind as to that of her white sister. Klengenberg had every chance to know, as he courted and married a charming little Eskimo. "The general shape of their garments" he says, "does not change, but the trimmings and the colour of the ornamental furs and the ways they are attached and the fancy work that goes with them do change quite a lot from winter to winter, and the women seem to know through the summer just what the most fetching mode will be for the next winter. One year the girls will be wanting still-born caribou calf that looks like seal but is darker. Another year all their trimmings will be ermine, and the next dark wolf, and the next red fox, and so on, even if their poor fathers must reach down so far as Great Slave Lake to get what they want. Skin Clothes will take all of a summer to make daintily, what with tanning, and selecting trimmings to match for mukluks and mittens and parka."

AN ALL-CANADIAN INSTITUTION

1866



1933

Older than Confederation

IN 1866 this Company was organized for the one specific purpose which it still fulfils — that of providing Governments, banks, business concerns and municipalities with quality engraving for all forms of monetary documents.

British American Bank Note Company Limited

TORONTO Head Office
OTTAWA MONTREAL

THE BRONSON COMPANY

*Manufacturers of
Groundwood*



OTTAWA, ONTARIO

Travel . Adventure - Recreation

Substantial progress has been made in the construction of the Banff-Jasper Highway, which runs through the very heart of the Rockies for 150 miles, and when completed will provide one of the most spectacular automobile routes in the world. Since 1914 a great deal has been done to make the magnificent scenery of the Rocky Mountains in Canada more readily accessible. Between that year and 1923 the Banff-Windermere Highway was built. Three years later the Kicking Horse Trail was opened; and a good deal of work has been done on the Jasper-Edmonton Highway.

* * *

Mr Buchanan's article in the February number has already told us something about the Akamina Highway and what it has meant to that southernmost of Canadian National Parks, Waterton. In 1929 a motor road was completed from headquarters in Prince Albert Park on Waskesiu Lake to the Prince Albert road outside the Park. These, with the Yoho Valley Drive, Snow Peak Avenue, and such other highways as those to Mount Edith Cavell in Jasper Park and to the Valley of the Ten Peaks in Rocky Mountain Park, are an asset of incalculable value in opening up to thousands of tourists who travel in their own cars the glorious scenery of Canada's mountain arks.

* * *

Speaking of motor thoroughfares, it will be remembered that the construction of the great Trans-Canada Highway was used very largely in 1931-32 to provide work for the unemployed, and to a less extent in 1932-33. It is now announced that only one link remains to be completed in the western half of the Highway, the section between Golden and Revelstoke, in British Columbia, and that is well advanced. When completed it will be practicable to travel by motor from the prairies through the Rockies to the valley of the Columbia, around the northern end of the Selkirks, and down

the valley of the Fraser to Vancouver — a scenic route that it would be difficult to match elsewhere.

* * *

It is rather early in the year to be thinking of summer cottages and holiday resorts by the sea or on the shores of some inland waterway, but, remembering how closely people herd together at most of these places, one is reminded of what that delightful old English essayist William Hazlitt said in his *Table Talk*. "I go out of town" said he "in order to forget the town and all that is in it. There are those who for this purpose go to watering places, and carry the metropolis with them. I like more elbow-room and fewer encumbrances. I like solitude, when I give myself up to it, for the sake of solitude. We go a journey chiefly to be free of all impediments and of all inconveniences; to leave ourselves behind, much more to get rid of others. Give me the clear blue sky over my head, and the green turf beneath my feet, a winding road before me, and a three hours' march to dinner — and then to thinking! I like to be either entirely to myself, or entirely at the disposal of others; to talk or be silent, to walk or sit still, to be sociable or solitary." And so that Hazlitt may not have the argument entirely to himself, hear the wisdom of Laurence Sterne, of the *Sentimental Journey*; "Let me have a companion of my way, were it but to remark how the shadows lengthen as the sun declines."

* * *

Writing about a century ago, Aubert de Gaspé, in *Canadians of Old*, describes the city of Quebec as it was in 1757.

"There was then" he says "the same cathedral, minus its modern tower, which seems to implore the charitable either to raise it to its proper height or to decapitate its lofty and scornful sister. The Jesuits' College, at a later date transformed into a barrack, looked much the same as it does to-day; but

what has become of the church which stood of old in the place of the present halls? Where is the grove of venerable trees behind the building, which adorned the grounds, now so bare, of this edifice sacred to the education of Canadian youth? Time and the axe, alas! have worked their will. In place of the merry sports, the mirthful sallies of the students, the sober steps of the professors, the high philosophic discourse, we hear now the clatter of arms, the coarse jest of the guard. Instead of the market of the present day, some low-built butcher's stalls, perhaps seven or eight in number, occupied a little plot between the cathedral and the college. Between these stalls and the college prattled a brook which, after descending St Louis Street and dividing Fabrique, traversed Couillard and the hospital garden, on its way to the river St Charles. Our fathers were bucolic in their tastes! The houses neighbouring the market place are, for the most part, of but one story, unlike our modern structures, which tower aloft as if dreading another deluge. It is noon. The Angelus rings out from the cathedral belfry. All the



All Expenses **\$334**

See
SCOTLAND
ENGLAND
HOLLAND
BELGIUM
GERMANY
FRANCE
in 30 Days

... All-expense tour prices from \$260 to \$979 include round trip ocean passage, hotels, meals, travel in Europe, guide service, motor trips, admissions to galleries and museums — even your tips! Write for free booklet "E".

TRAVEL GUILD

372 Maine Street, Winnipeg, Canada

FRED STERRY
President

JOHN D. OWEN
Manager



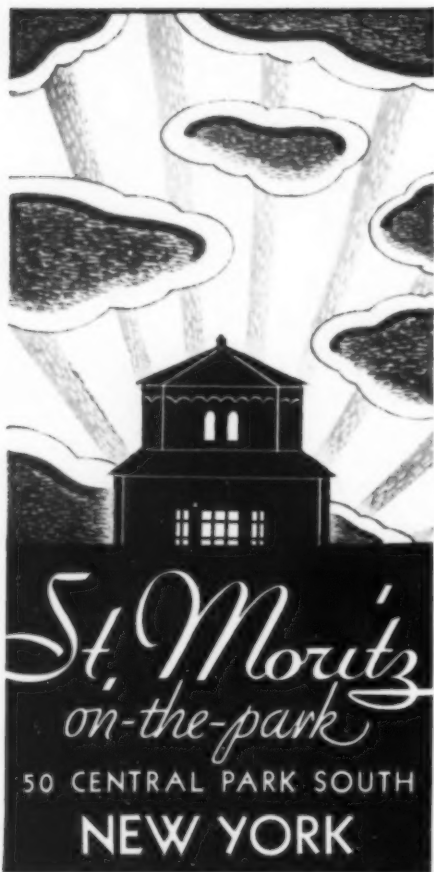
DISTINGUISHED by its world-famous reputation; ideally located on Fifth Avenue, facing the attractive vista of Central Park.

OFFERING its guests the unique privilege of quiet atmosphere with accessibility to fashionable shops and theatres.

Fifty-ninth St. and Fifth Ave.

The **PLAZA** *New York*





DIRECTION: S. GREGORY TAYLOR

America's first truly continental hotel . . . facing Central Park . . . convenient to the shops, theatres and business . . . perfect service and enticing cuisine.

•

Delightful rooms as low as four dollars per day.

•

The CONTINENTAL GRILL is popular for dinner and supper dancing during the winter . . . in the summer, the SKY SALON is ideal . . . Leon Belasco and his famous orchestra, alternating with Senor Alfredo's Marimba Band . . . no cover charge.

•

The last word for luncheon or tea in the European manner . . . that international rendezvous . . . RUMPELMAYER'S.



city chimes proclaim the greeting of the angel to the Virgin, who is the Canadian's patron saint. The loitering habitants, whose calashes surround the stalls, take off their caps and devoutly murmur the Angelus. All worshipping alike, there is none to deride the pious custom."

* * *

About the time these words are read an experiment undertaken some time ago by the Canadian Government will have been brought to a successful conclusion. This experiment, which has a romantic as well as a very practical side, involved the driving of a great herd of reindeer from Alaska to the mouth of the Mackenzie River. After many months of travel, the reindeer — about 2300 of them — have at last arrived at the winter grazing range set apart by the Government east of the delta of the Mackenzie. In December a party of Canadians took over the herd from the Americans who had driven it as far as Demarcation Point, where the boundary between Alaska and the Yukon strikes the Arctic. Preparations for the reception of the herd were completed some months ago, both on the winter grazing range and on the summer grounds along the Arctic coast east of the Mackenzie. The stations include buildings for the staff, sleeping and living quarters, warehouses and workshops. It is believed that these reindeer, with their natural increase, will in time become as invaluable to the Eskimo and northern Indians of Canada as they have proved to be to the natives of Alaska and the Laplanders of northern Europe.

* * *

Members wishing to bind the last volume of the *Journal* are advised that a cumulative index covering volumes I to V, designed for binding with volume V, is available and will be mailed to members making application to the publication office at Montreal.

* * *

All representatives of the Canadian Geographical Society carry with them authorization cards to solicit memberships in the Society. These credentials expire on the last day of each month, and we would ask present members and those wishing to become members to request to see representative's credential before handing over the membership fee.

Amongst the New Books

Australia, Human and Economic. By Arthur Jose. London: George G. Harrap and Company. 1932. 10/6.

This book, by the Editor of "The Australian Encyclopaedia," is described as neither a text-book nor a history, but rather an attempt to answer a number of questions that have puzzled people who do not know the Commonwealth, such as why it is so poorly and patchily settled, and why its people, 98 per cent British, should be so lacking in cohesion? But besides answering these questions it will prove instructive and stimulating to Canadians, because of the light it sheds upon the geography, history, sociology, and political and economic development of Australia.

* * *

On Foot through Clydesdale. By Iain C. Lees. Toronto: Blackie & Son. 1932. \$1.25.

Written, by one who is thoroughly at home in this picturesque part of Scotland, both to encourage others to follow in his footsteps through the hills and vales of Clydesdale, and to entertain those who may travel there only in imagination. Besides the charm of the countryside, Mr Lees reminds us of the romantic history of the district, of its associations with Jacobites and Covenanters, Bruce and Wallace, Mary of Scots, the Douglasses, Sir Walter Scott and Robert Burns, Gladstone and Ingram the pioneer of calico-printing.

* * *

Other Days Other Ways. By Georges Bouchard. Toronto: The MacMillan Company. 1930. \$2.50.

Tayville. By J. K. Robertson. Toronto: Ryerson Press. 1932. \$2.

Although published two years apart, these books are so similar in purpose, as well as in charm, that it seems desirable to review them together. Each is designed to preserve the story of

vanished days, the small town life of thirty or forty years ago,—in the one case in Quebec, in the other in Ontario. One has only to read these pages to realize how amazingly life has changed in our small towns in three or four decades. Mr Bouchard's book and Professor Robertson's may rank with Judge Rivard's "Chez Nous," and Stephen Leacock's "Sunshine Sketches" as authentic records of other days. It is particularly interesting to compare the old forge, in Quebec and Ontario, as it used to be before the days of the automobile.

* * *

Mush! Un Hiver en pays Cree. Par Madame Anne de Mishægen. Montréal: Librairie Beauchemin. 1933.

In this charming little book Madame Mishægen tells, with the aid of many lively illustrations, the story of her experiences in the country north of the Saskatchewan. That country, through which the Hudson Bay Railway runs to-day from The Pas to Port Churchill, was only a few short years ago a practically unknown land to all but a few trappers and fur-traders, and it is still a terra incognita to most of us. Madame Mishægen travelled in winter, by dog sled, and has many interesting and amusing things to say of the country and its inhabitants, human and otherwise.

* * *

Outline Map of England and Wales. Published by George Philip & Son, London. 9d.

This is an example of the very useful large scale outline maps issued by George Philip and Son, for use in schools and elsewhere. The scale is approximately 10 miles to the inch. There is an obvious advantage for certain purposes in having a map from which has been eliminated the bewildering evidences of modern civilization, towns, roads, railways, etc.

Everyman's Encyclopaedia. Vols. 11 and 12. Toronto: J. M. Dent & Sons. 1932.

These two volumes complete this admirable work of reference. Examining them from a geographical point of view one finds condensed but authoritative articles on such subjects as Rumania, Russia, Scotland, South Africa, South Australia, Tibet, Spain, Turkey, United States, Venezuela, Wales, Vancouver, Victoria, Winnipeg, Shipping, Surveying, Trade, and many other topics of special interest to readers of the JOURNAL. But one must not forget that this is not in any sense merely a book of geographical knowledge, but on the contrary a very comprehensive and useful Encyclopaedia which may be relied upon to supply answers to all the questions that the average man is likely to ask, and it has the additional advantage of being up to date.

* * *

The United Empire Loyalists. By A. G. Bradley. London: Thornton Butterworth Limited. 1932. \$5.

No more romantic episode may be found in the history of Canada than the exodus of loyal colonists from the south to Canada and Nova Scotia at the close of the American Revolution. The loss of the United States — and it was a very real loss — was a corresponding gain to British North America. The Loyalists became the backbone of the Maritime Provinces and Upper Canada. Mr Bradley traces their story from the turmoil of the Revolution to the tribulation of pioneer conditions on the St John river or the Bay of Quinte; reveals what their presence in Upper Canada meant to the country in the War of 1812-14; and what it has meant to the Dominion.

* * *

Lions, Gorillas and Their Neighbors. By Carl and Mary L. Jobe Akeley. New York: Dodd, Mead & Company. 1932 \$2.50.

This may be regarded as a sequel to "Adventures in the African Jungle," reviewed in the JOURNAL some time ago. It is written particularly for boys — and could anything make a more overwhelming appeal to the average boy than true tales about lions and gorillas? —

but makes fascinating reading for anyone who is interested in Africa and its wild inhabitants. So rapidly are conditions in that once mysterious continent changing, under the not always benevolent influence of civilization, that many of the experiences of Carl and Mary Akeley will never be repeated. One of many myths that are exploded in this book is the idea that the lion is a ferocious beast who needs only to see a man to attack him. On the contrary, says Carl Akeley, "the lion is a gentleman. If allowed to go his own way unmolested, he will keep to his own path and will not encroach upon yours."

* * *

Van Loon's Geography. The Story of the World We Live In. Written and Illustrated by Hendrick Willem van Loon. Toronto: Musson Book Company. 1932. \$4.50.

Mr Van Loon, having written a universal history upon novel lines, thereby emulating Mr Wells, has now gone Mr Wells one better by writing an equally original geography. It is novel in plan and novel in treatment, novel in text and even more in its hundreds of illustrations, some in colour and others in black-and-white. The author's point of view is that the only kind of geography that is worth giving a great deal of thought to is human geography — geography as it affects or is affected by man. "I would rather call it" he says "a study of man in search of food and shelter and leisure for himself and for his family and an attempt to find out the way in which man has either adapted himself to his background or has reshaped his physical surroundings in order to be as comfortable and well nourished and happy as seemed compatible with his own limited strength... Man comes first in this geography. His physical environment and background come next. The rest is given whatever space remains." Certainly an interesting experiment in geography, and, in spite of certain points that might be open to criticism, one that may be read with profit as well as entertainment. It is perhaps one of the oddities of Mr Van Loon's treatment that Canada gets about the same space as the Canary Islands.